

COUNTY PALATINE OF LANCASTER.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1908

WITH STATISTICAL INFORMATION
AND SUMMARY OF REPORTS OF DISTRICT
MEDICAL OFFICERS OF HEALTH, &c.

(Presented to the County Council, November 4th, 1909.)



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MCMIX.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year ended December 31st, 1908.

*To the County Council of the County Palatine
of Lancaster.*

Mr. Chairman, My Lord, and Gentlemen,

I have the honour to submit to you my twentieth Annual Report on the health and sanitation of the Administrative County, together with a summary of the Annual Reports received from District Medical Officers of Health.

The mortality statistics for the past year must, on the whole, give satisfaction, although the general death-rate, corresponding to 14·45 per 1,000 of the population, shows a fractional increase as compared with the very favourable death-rate of 14·40 recorded in the previous year. There is a slight advance in the epidemic rate, equal to 0·1 per 1,000, and the rate of infant deaths under the age of one year to 1,000 births rose from 125 in 1907, to 131 in 1908, but as compared with the average of the 10 preceding years there was a gratifying reduction. The death-rate from tuberculous phthisis was the lowest hitherto recorded in the County, and as compared with the rate of 18 years ago, when statistics concerning tuberculosis became first available, there is a saving of 1,100 lives per annum, besides a vast diminution in the amount of sickness and suffering. This

improved state of health is largely due to the increasing intelligence paid to matters appertaining to public health and the general well-being of the people. I may also mention that, for the first year since 1902, there has been an appreciable increase in the birth-rate, confined almost entirely to the industrial centres of the County.

Reports from all the District Authorities, viz., 131, came under review; of these 112 were printed, 14 type written, and 5 in manuscript. The special reports supplied by Medical Officers of Health under Article 18 of the Local Government Board Order, 1891, numbered 143, against 159 last year, 131 in 1906, 71 in 1905, and 177 in 1904. Monthly returns of deaths and cases of infectious disease notified or ascertained have been received from all the County districts, and this voluntary work on the part of Medical Officers of Health is much appreciated.

From the Exchequer Contribution Account payments have been made towards the salaries of sanitary officials under Section 24 of the Local Government Act, 1888, to the Councils of 15 boroughs, 89 urban districts, 19 rural districts, and 2 port sanitary districts. The total payments during the financial year ended March 31st, 1909, amounted to £9,876 1s. 10d., of which Medical Officers of Health received £4,075 1s. 9d., and Sanitary Inspectors £5,801 0s. 1d.

The Midwives Act has been administered with great care, and ample evidence could be given as to its extreme importance to parturient women. Much good is expected to result from the efforts made to prevent the occurrence of puerperal sepsis—one of the terrors of the lying-in period—and the reduction of child-bed ailments, which so often give rise to continuous suffering and prolonged disablement. The responsibility of the work carried out by the midwives practising in the County is evident from the fact that of the

total County births for 1908, amounting to 44,889, the certified midwives attended 23,038, or an average of 51·3 per cent.

Under the Sale of Foods and Drugs Acts 3,440 samples of food were purchased by County Officials, and submitted to the County Analyst for examination ; as a result of the analyses conducted in the County Laboratory, Dr. Campbell Brown reports that 181, or 5·2 per cent., were found to be more or less adulterated, a proportion somewhat higher than in the previous year.

I am, Gentlemen,

Your obedient Servant,

EDWARD SERGEANT,

County Medical Officer of Health.

Preston, October 21st, 1909.

THE COUNTY.

Area and Population.—The area of the Administrative County is the same as at the termination of 1907, namely, 1,068,620 statute acres. During the year 1908, Parliamentary Bills were promoted by the Corporations of Manchester, Burnley and Blackburn for the extension of their respective boundaries, but the proposals were withdrawn owing to the strong opposition of the County Council to the basis on which it was proposed financial adjustment should be carried out if the extensions were authorised. No change affecting the total area of the Administrative County has taken place since November, 1905. At the census 1901, an area of 1,092,925 acres was under the jurisdiction of the County Council, but 24,305 acres have since that time been absorbed by the extension of County Boroughs.

The population of the Administrative County at the middle of 1908, according to the estimates given by Medical Officers of Health of districts corresponded to 1,805,228, or 25,251 more than the estimated population for the previous year. Since the census of 1901, when the population was enumerated at 1,827,436, a loss of population equal to 229,381 has taken place due to the extensions of County Boroughs and the creation of two new County Boroughs. As in previous years the estimated population of the County is exclusive of over 21,400 residents in the public institutions situated within its area, but used for the reception of persons from outside districts.

Tables I. and III. appended (page 290 *et seq.*) give the acreage and population of each County district. From the whole of the districts—131 in number—reports have been received, and a digest of each report is given on pages 1—283.

Particulars as to the area, population and proportion of persons to an acre in the districts under review are given in the following table :—

	Area in Acres (per Census Return).	Population Estimated by Medical Officers of Health, 1908.	Persons per Acre.	Acres per Person.
Municipal Boroughs ...	78,000	569,637	7.30	0.13
Urban Districts	273,767	1,004,036	3.66	0.27
Rural Districts.....	716,853	231,555	0.32	3.09
Administrative County...	1,068,620	1,805,228	1.68	0.59

Births registered in the whole of the Administrative County numbered 44,889—in the urban districts 39,424, and in the rural districts 5,465. As compared with the previous year there was an increase of 1,748.

The sex of the children born is given below :—

	Males.	Females.	Total.
Urban Districts	20,242	19,182	39,424
Rural Districts	2,757	2,708	5,465
Administrative County ...	22,999	21,890	44,889

The male births were again more numerous than the female births to the extent of 2.47 per cent. ; in the preceding year the excess corresponded to a percentage of 1.75, and 1.93 in 1906. In the whole County the births of males were to

those of females as 1,050 is to 1,000—in the urban districts 1,055 to 1,000, and in the rural districts 1,018 to 1,000.

From 86 districts, information is supplied respecting births and deaths of illegitimate children. In these districts 923 such births were registered, and 245, or 26·5 per cent. of the children born, died before reaching the age of one year. The percentage of deaths to illegitimate births in 1907 was 24·4, 27·9 in 1906, 23·4 in 1905, and 26·3 in 1904. In the entire County the percentage of deaths of infants under twelve months to total births corresponded to 13·1, or less than one-half the mortality amongst illegitimate children.

The mortality amongst illegitimates was most marked in—

Accrington (B.).....	26	births	11	deaths
Barrowford	5	„	4	„
Chadderton	22	„	9	„
Chorley (B.)	31	„	13	„
Leigh (B.)	24	„	11	„
Upholland	7	„	6	„
Waterloo-with-Seaforth	14	„	8	„
Ulverston (R.).....	21	„	7	„

There is reason to believe that the chief causes of death with few exceptions are everywhere more fatal to illegitimate than to legitimate infants of each sex, and that the mortality is greatest in urban districts. During the last few years however, a decline has been noticeable in the mortality from all causes among illegitimate infants, but this has been less marked in the mortality from diarrhoea and tuberculous diseases.

The County birth-rate, 24·86 per 1,000 of the population, shows an increase of 0·63 as compared with last year, but with the exception of 1907 it is the lowest recorded. The urban rate, 25·05, and rural rate, 23·6, are also 0·58 and 1·0 respectively higher than the recorded rates for the previous year. This is the first year since 1902 that there has been an increase in

the County birth-rate, but compared with the average of the ten years 1898-1907, the birth-rate for last year showed a diminution equal to 1·29 per 1,000—1·28 in the urban districts and 1·29 in the rural districts. The County rate is also 1·7 per 1,000 below the mean for England and Wales. The Registrar General reports that “the birth-rate in England and Wales in 1908 was 26·5 per 1,000 of the population, which is 0·2 above the rate in 1907. Compared with the average in the ten years 1898-1907 the birth-rate in 1908 showed a decrease of 1·6 per 1,000.”

The following Table gives the County birth-rates, and those of England and Wales during the years 1898-1908 :—

	Rate per 1,000 of the Population.										
	1908.	1907.	1906.	1905.	1904.	1903.	1902.	1901.	1900.	1899.	1898.
Urban Districts	25·05	24·47	25·11	25·22	25·66	27·04	26·95	26·78	26·96	27·31	27·89
Rural Districts..	23·60	22·60	24·22	23·99	24·90	24·96	26·14	25·13	25·72	25·53	25·80
Administrative County	24·86	24·23	24·99	25·06	25·56	26·77	26·85	26·57	26·80	27·09	27·62
England and Wales.....	26·5	26·3	27·0	27·2	27·9	28·4	28·6	28·5	28·5	29·3	29·4

The birth-rate for each of the County districts is given in Tables I. and III., page 290, *et seq.*, and comparison with the previous decade shows that in a large number of districts there has been an almost continuous decline in this rate. In 81 districts, however, the rate gave a higher average than in the previous year, but as a rule the increase was only fractional.

The highest rates were recorded in Haydock 38·9, Ince-in-Makerfield 35·9, Standish-with-Langtree 35·7, Aspull 35·5, Litherland 35·1, Golborne 34·2, Ashton-in-Makerfield 33·6, Skelmersdale 33·0, Upholland 32·9, Gorton 32·5, Widnes (B.) 32·4, and Leigh (R.) 32·1 ; while the following districts had the

lowest rates, viz. :—Morecambe (B.) 15·6, Allerton 15·5, Birkdale 15·5, Wardle 14·5, St. Annes-on-the-Sea 14·4, Heysham 14·0, Lytham 13·4, Childwall 13·3, Heaton Norris 13·0, Grange-over-Sands 12·0, and Bispham-with-Norbreck 11·0. It may be observed that the slight increase in the birth-rate has been confined to those industrial centres which are occupied by persons largely engaged in cotton mills or collieries, and who as a rule marry young, without fear of their prospective responsibilities. These districts have usually a higher infant mortality, due in a measure to the wastage of life during the first few days of existence from immaturity or congenital defects. The birth - rate in the better class districts still continues to decline owing probably to a common cause which affects the whole of the country, and as stated by the Registrar General (Annual Report 1907) “apart from any decrease due to changes in the age constitution of the married women of conceptive ages, there is strong ground for the assumption that in varying degree that cause is the deliberate restriction of child bearing on the part of the people themselves.”

Deaths registered in the Administrative County during 1908 numbered 26,087, or 441 more than in the previous year. The excess of births over deaths amounted to 22,802, against 17,495 last year, 18,090 in 1906, and 19,048 in 1905. The sex distribution of the persons dying in 1908 is shown as under :—

	Males.	Females.	Total.
Urban Districts	11,560	11,443	23,003
Rural Districts	1,629	1,455	3,084
Administrative County ...	13,189	12,898	26,087

The proportion of total male deaths in the County was 1·11 per cent. higher than that of females; in the urban districts

the excess corresponded to 0·51 per cent., and in the rural districts 5·65 per cent. In the whole County the deaths of males were to those of females as 1,022 is to 1,000, in the urban districts as 1,010 is to 1,000, and in the rural districts as 1,119 is to 1,000. In 1907 the total male deaths exceeded those of females by 0·47 per cent., in the urban districts by 0·05 per cent., and in the rural districts by 3·63 per cent.

The ages at the time of death were as below :—

Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Total.
5,919	2,648	1,075	1,092	9,125	6,228	26,087

The following Table shows the County birth and death rates as compared with England and Wales :—

		Birth-rate per 1 000 of the Population.	Per 1,000 of the Population.		Death-rate from the Seven Principal Epidemic Diseases.	Rate of Infantile Mor- tality measured by the proportion of deaths of Infants under 1 year to 1,000 births.
			Urban Death- rate.	Rural Death- rate.		
England and Wales		26·5	*14·8	†14·7	1·29	121
			14·7			
76 large English Towns...		27·0	14·9	...	1·59	128
Administrative County of Lancaster	Urban	25·05	14·61	...	1·45	136
	Rural	23·60	...	13·31	0·82	97
	Urban and Rural Districts combined	24·86	14·45		1·37	131

* Refers to the 76 great towns and 142 smaller towns.

† Refers to the remainder of the country, including the small urban districts and the rural districts.

The death-rate for the County in the year under report corresponded to 14·45 per 1,000 of the population, against

a rate of 14·40 last year, 14·62 in 1906, 14·32 in 1905, and 15·54 in 1904. As compared with 1907, the County rate shows an increase of 0·05 per 1,000—urban districts 0·02 and rural districts 0·20; excepting the years 1905 and 1907 the death-rate is the lowest recorded. Comparison with the average of the preceding ten years, 1898-1907, shows that the County rate for 1908 was more favourable to the extent of 1·25 per 1,000, 1·31 in the urban districts, and 0·81 in the rural districts. The total rate in 1908 was 0·3 per 1,000 below the average for England and Wales, and both the County urban and rural rates bear favourable comparison with the whole Country.

In the Table below are given the County death-rates and those of England and Wales from 1898-1908 :—

	Rate per 1,000 of the Population.										
	1908.	1907.	1906.	1905.	1904.	1903.	1902.	1901.	1900.	1899.	1898.
Urban Districts	14·61	14·59	14·81	14·52	15·78	15·44	15·43	16·58	17·46	17·88	16·80
Rural Districts	13·31	13·11	13·33	12·99	13·81	13·69	14·08	14·21	15·26	15·65	15·09
Administrative County	14·45	14·40	14·62	14·32	15·54	15·22	15·26	16·28	17·19	17·60	16·58
England and Wales... ..	14·7	15·0	15·4	15·2	16·2	15·4	16·3	16·9	18·3	18·3	17·6

Somewhat high rates were attained in Lees 20·8, Skelmersdale 20·7, Ashton-under-Lyne (B.) 19·1, Prescott 18·7, Kirkham 18·3, and Royton 18·1—while low rates prevailed in Whiston (R.) 10·9, Great Crosby 10·7, Heaton Norris 10·6, St. Annes-on-the-Sea 10·6, Heysham 10·5, Lunesdale (R.) 10·0, Formby 8·2, Allerton 6·5, Little Woolton 6·4, and Little Crosby 4·7.

As in previous years the deaths taken cognisance of by Medical Officers of Health refer to the net deaths belonging to or allocated to each district in accordance with the instructions of the Local Government Board, and all deaths occurring in public institutions of persons not belonging to the district are excluded. This arrangement allows the exclusion of a

large number of deaths (over 2,600) from the local statistics, and these in many cases are allocated to the areas—often County Boroughs—to which they belong, for instance, 209 deaths which took place at the Fulwood Workhouse, Barracks, &c., are excluded, as also the Workhouse deaths from the districts of Ashton-under-Lyne (B.) (166—and also 68 Infirmary deaths), Eccles (B.) (65), Farnworth (315), Ormskirk (77), Rawtenstall (B.) (91), Swinton and Pendlebury (119—including deaths in Children's Hospital), Wardle (251), and Fylde (R.) (48). The following deaths are also excluded: Whittingham Asylum and Ribchester Workhouse (Preston R.) 163, Rainhill Asylum and Workhouse (Whiston R.) 303, Winwick Asylum (Warrington R.) 210, in the County Asylum and other public institutions, Lancaster (B.) 247, and in the County Asylum at Prestwich 250, &c.

It may also be again pointed out that the effect of including in the statistics of local authorities deaths of non-residents, *unless occurring in public institutions*, has considerably increased the death-rates of certain much frequented health resorts, for instance, in Bispham-with-Norbreck, Grange-over-Sands, Lytham, Morecambe (B.), and St. Annes-on-the-Sea they are raised 5·5, 2·5, 1·4, 1·5, and 1·8 per 1,000 respectively by the deaths of visitors

Infantile Mortality.—The County rate of deaths under one year to 1,000 births corresponded to 131, or an increase of 6 per 1,000 births as compared with the exceptionally low rate of 1907. The urban rate in 1908 was 136, and the rural 97, showing increases on the previous year of 7 and 1 per 1,000 respectively. The infant rate for the County in 1906 was 139, in 1905 132, and in 1904 157. The average of the ten years 1898-1907 was 149, or less favourable than the year under report to the extent of 18 per 1,000 births. Excepting 1907 the present rate is the lowest on record for the County. The infant rate for England and Wales in 1908 was 121, or 3 per 1,000 higher than last year; in the 76 great towns, the rate was 128, and in the 142 smaller towns, 124.

The following Table gives the County infant death-rates and those of England and Wales for the years 1898-1908 :—

	Deaths of Children under 1 Year to 1,000 Births.										
	1908.	1907.	1906.	1905.	1904.	1903.	1902.	1901.	1900.	1899.	1898.
Urban Districts.	136	129	143	137	162	143	143	167	167	181	173
Rural Districts..	97	96	109	101	124	114	116	118	123	134	130
Administrative County	131	125	139	132	157	140	139	161	162	175	168
England and Wales.....	121	118	133	128	146	132	133	151	154	163	161

The highest rates were attained in Orrell 221, Hurst 216, Farnworth 206, Skelmersdale 204, Leyland 202, Poulton-le-Fylde 200, Kearsley 192, Lees 188, Audenshaw 185, Kirkham 184, Whitworth 184, Ashton-under-Lyne (B.) 183, and Ince-in-Makerfield 183; while the lowest prevailed in Formby 68, Sefton (R.) 65, Huyton-with-Roby 62, Lunesdale (R.) 59, Lancaster (R.) 52, Grange-over-Sands 41, Little Woolton 41, and Little Crosby nil.

In the following Table the County rate for 1908 is compared with the three preceding quinquennia :—

Years.	INFANTILE MORTALITY.			Per 1,000 of Population.	
	Rate of Deaths under One Year.		Percentage of Infant Deaths to Total Deaths at all ages.	Birth-rate.	Death-rate.
	Per 1,000 Births.	Per 1,000 of the Population			
1893—1897	161	4.72	26.34	29.42	18.03
1898—1902	161	4.35	26.24	26.98	16.58
1903—1907	138	3.52	23.77	25.32	14.82
1908	131	3.27	22.68	24.86	14.45

It will be seen that the deaths of children under the age of twelve months show a decline as compared with the three preceding quinquennia, and this is accompanied by a proportionate reduction in the general birth and death rates. Table A appended gives the deaths from stated causes in weeks and months under one year of age; these deaths amounted to 5,919, or 22·68 per cent. of the total deaths from all causes, and equal to a rate of 3·27 per 1,000 of the population. In the previous year the percentage of infant to total deaths was 21·16, and the rate per 1,000 of the population 3·05. During the first week of life 1,154 or 19·4 per cent. of the whole of the infant deaths took place; in the next three weeks 755 more deaths occurred, corresponding to 12·7 per cent., thus under the age of one month, no less than 32·2 per cent. of the infant deaths took place. The deaths of infants within the first week of existence due to premature birth and congenital defects numbered 794, or 13·4 per cent. of the total deaths under 12 months; these causes of death suggest that prejudicial influences were at work, some of them ante-natal and due largely to the industrial employment of mothers, while others, namely, maternal ignorance and neglect, deprivation of mother's milk, food contamination and insanitary environment exerted a baneful influence on the infant at the most sensitive period of life. As with the rest of England, the County infant mortality has, since 1889, when records were first supplied to the County Authority, shown with slight fluctuations an appreciable decline, and as suggested by the Registrar-General, this may in part be due to the increasing attention the subject of the waste of infant life has received from all classes of the community; at the same time it should be pointed out that the country has lately experienced certain climatic conditions in the form of a series of cool and showery summer seasons, which no doubt have exerted a favourable influence in checking the rise of mortality from "diarrhoeal diseases" that usually prove so fatal in the third quarter of the year.

TABLE A.

INFANTILE MORTALITY.—Deaths during 1908 from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.					Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under One Year.
ALL CAUSES.	Certified	1108	278	268	202	1856	625	521	461	377	369	330	304	270	250	230	234	5827			
	Uncertified	46	2	4	1	53	7	6	4	5	3	1	5	5	..	1	2	92			
Common Infectious Diseases	Small-pox	
	Chicken-pox	2	..	2	4	
	Measles .. ..	..	..	..	2	2	3	2	1	1	1	8	7	10	12	15	18	80
	Scarlet Fever .. ..	..	1	..	..	1	..	..	..	..	..	1	..	..	1	..	..	3
	Diphtheria (including Membranous Croup) ..	..	1	..	..	1	..	..	..	..	..	3	1	2	2	2	6	17
Diarrhoeal Diseases	Whooping Cough .. ..	..	..	..	5	5	21	26	21	16	12	26	22	21	18	15	20	223
	Diarrhoea, all forms	2	3	15	10	30	68	88	94	76	83	81	66	43	47	30	33	739			
	Enteritis, Muco-enteritis, Gastro-enteritis..	5	6	14	7	32	33	48	47	39	30	31	21	13	26	15	11	346			
Wasting Diseases	Gastritis, Gastro-intestinal Catarrh	6	1	8	6	21	24	24	13	19	11	7	9	7	3	6	1	145			
	Premature Birth	654	76	70	46	846	51	13	9	2	1	..	1	1	..	..	..	924
	Congenital Defects	140	30	23	22	215	22	10	8	5	4	3	1	3	3	2	1	277			
	Injury at Birth	26	2	..	..	28	..	1	..	..	..	..	..	..	..	..	..	29
	Want of Breast Milk, Starvation..	1	4	2	4	11	3	5	2	3	..	1	..	1	..	..	..	26
Tuberculous Diseases	Atrophy, Debility, Marasmus	121	64	51	37	273	154	94	73	48	25	24	21	17	12	10	11	762			
	Tuberculous Meningitis ..	..	1	..	..	1	2	7	6	4	8	12	12	11	9	7	6	85
	Tuberculous Peritonitis Tabes Mesenterica ..	1	..	2	..	3	5	6	5	10	8	5	11	4	10	6	8	81			
Other Causes	Other Tuberculous Diseases..	2	..	1	..	3	5	8	9	13	12	14	11	5	9	18	8	115			
	Erysipelas .. ..	..	..	2	3	5	2	1	..	1	..	..	..	1	..	..	..	10
	Syphilis.. ..	..	1	..	1	2	7	4	4	5	1	..	1	..	..	..	..	24
	Rickets .. ..	..	..	..	..	..	..	..	2	..	2	1	1	2	3	1	1	13
	Meningitis (not Tuberculous)	1	3	1	..	5	5	7	9	11	8	8	14	12	7	8	9	103			
	Convulsions	69	29	22	20	140	51	43	23	25	23	19	14	20	8	9	15	390			
	Bronchitis	6	18	22	14	60	68	55	56	44	65	37	32	30	26	35	24	532			
	Laryngitis .. ..	..	..	..	..	..	1	..	3	2	1	4	3	2	3	2	2	23
	Pneumonia	1	6	7	6	20	46	40	41	30	50	32	36	45	37	31	38	446			
	Suffocation, overlying	7	1	..	2	10	6	5	9	4	2	..	1	1	..	..	..	38
Other Causes					112	33	32	18	195	55	40	30	24	23	14	22	24	14	19	24	484
Total					1154	280	272	203	1909	632	527	465	382	372	331	309	275	250	231	236	5919

As in previous reports, the following extracts from the district reports are given as representing the opinion of Medical Officers of Health on the subject of infant mortality :—

Dr. Talent (Ashton-under-Lyne B.) as a means of reducing the high infant mortality recommends (a) notification of births, (b) appointment of health visitors, (c) careful and frequent removal of all manure and decomposing matter, (d) special instructions on the feeding and care of infants.

Dr. Brown (Bacup B.) suggests that one of the causes in the reduction of the infantile rate is the bad state of the cotton trade, which has prevented mothers going to work in the mills and enabled them to devote more time to domestic and maternal duties.

Dr. Wheeler (Birkdale), in referring to the infant death-rate as a sure indication of the sanitary state of a district, remarks that light, air, and cleanliness have much to do with children's growth; when visiting houses in the poorer portion of the district he has frequently found that the tenant was guilty of gross neglect in regard to home requirements.

The Medical Officer of Health of Church regrets that the past year shows such a reversion to the old state of affairs as regards infantile mortality, but so long as so many mothers hurry back to the mills as soon as possible after child-birth, and leave their babies often improperly fed, dependence must be placed upon favourable atmospheric conditions for a low infantile death-rate.

As a means of reducing infant mortality, Dr. Hamilton (Eccles B.) says that he would "make education in infant nurture and hygiene compulsory in all elementary schools, prohibit the employment of female children under the age of 15 in factories, and enforce the absence of all mothers from work six months after confinement."

The marked decrease in the infant mortality of Rawten-stall (B.) was due to the reduction in the number of deaths from wasting diseases (including premature birth, congenital

defects, and debility) and respiratory diseases. Dr. Helm, Medical Officer of Health, calls attention to the significant fact, that in years marked by a depression in the cotton trade there is a fall in the number of deaths from wasting diseases. As a rule, when an increase takes place in the number of births, there is an increase in the number of infantile deaths, but in 1908, although the number of births increased as compared with the preceding three years, the infantile mortality was lower, the reason probably being that the cotton trade in 1908 was not so flourishing as in the period mentioned, and mothers were able to stay at home and nurse their children themselves.

Dr. Parker (Lancaster R.) states that the eleven infant deaths which occurred in his district were all "preventible, and easily so, with a more intelligent knowledge of the management of infants." He again suggests that the subject of the care of young children should be taught to the older girls in schools, believing this would be of far more permanent benefit to them than many of the subjects so carefully instilled into them at the present time, and would no doubt result in benefit to the community.

A similar view is taken by Dr. Patterson, the Ulverston (R.) Medical Officer of Health, who, referring to deaths of children under the age of one year, remarks that "the most fruitful source of infantile disease and death is unquestionably bad feeding and improper bringing up of infants, but with the educational advantages now so easily procurable, it is hoped that the rising generation will obtain the elementary knowledge which is so necessary to the well-being of the young."

The Notification of Births Act, which received the Royal Assent, August 28th, 1907, has been adopted by the following Authorities with the sanction of the Local Government Board, viz.:—Ashton-in-Makerfield, Ashton-under-Lyne (B.), Atherton, Clitheroe (B.), Colne (B.), Crompton, Darwen (B.),

Eccles (B.), Farnworth, Lancaster (B.), Levenshulme, Middleton (B.), Stretford, Swinton and Pendlebury, and Tyldesley-with-Shakerley. The utility of the Act is generally acknowledged, and with the assistance of health visitors, may be taken as a valuable addition to the various means that can be taken advantage of for saving the lives of infants. These new officials of Local Authorities have to visit the houses where births have taken place, and give advice as to the conditions that should be observed by mothers with respect to the proper nurture, care, and management of young children, and the promotion of cleanliness generally. Several Medical Officers of Health who have experience in this special work speak most highly of the efficiency shown by the health visitors in carrying out their important duties.

The Seven Principal Epidemic Diseases, namely, small-pox, scarlet fever, diphtheria and membranous croup, whooping cough, fever (comprising enteric, typhus, and continued fever), and diarrhoea, gave rise to 2,484 deaths, or 9·5 per cent. of the total deaths from all causes. In the previous year 2,262 deaths were due to epidemic diseases or 8·8 per cent. of the total mortality, in 1906 there were 2,987 deaths with a percentage of 11·7, in 1905 the percentage was 9·6, and in 1904, 12·1. As regards the classification of deaths under the heading of diarrhoea the Local Government Board in their statistical tables have reverted to the method adopted by them prior to 1906. For the years 1906 and 1907 the Board's Tables required that all deaths of children *under one year of age* registered as due to enteritis, muco-enteritis, gastro enteritis, gastritis, and gastro-intestinal catarrh, should be classified as "diarrhoea," and consequently all such deaths were included in the epidemic death-rates.

This reversion to the old method has necessitated the re-calculation of the district epidemic rates for 1906 and 1907, and the ten years 1898-1907 in the appended summaries. To show the extent of the change, it may be mentioned

that, from the total diarrhœa deaths in 1907, 1292, and in 1906, 456 deaths ascribed to enteritis, &c., have had to be deducted in order to be comparable with the year under report.

There was an increase over 1907 of 222 deaths from diseases classed as epidemic, the deaths from diarrhœa showing an increase of 523, from fever 62, from scarlet fever 19, from diphtheria 12, while measles had 325 fewer deaths, and whooping cough 69. The epidemic death-rate, equal to 1·37 per 1,000 of the population (urban 1·45 and rural 0·82), was the lowest recorded in the County, except last year, when the revised rate corresponded to 1·27 per 1,000; while during the past decade the epidemic mortality averaged 1·78. The epidemic rate for England and Wales, equal to 1·29, is more favourable than the County rate to the extent of 0·08 per 1,000.

The following Table gives the epidemic death-rates for the Administrative County during 1908 compared with the 10 years 1898-1907 :—

YEAR.	ANNUAL DEATH-RATE PER 1,000.							
	Seven Principal Epidemic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Enteric, Typhus, & Continued Fever).	Diarrhœa.
1898	1·89	0·0005	0·25	0·10	0·07	0·19	0·26	1·00
1899	2·37	0·0005	0·44	0·18	*0·18	0·26	0·24	1·05
1900	2·07	0·0015	0·43	0·18	0·26	0·37	0·20	0·60
1901	2·07	nil.	0·18	0·18	0·34	0·20	0·20	0·95
1902	1·51	0·0119	0·35	0·20	0·30	0·19	0·16	0·28
1903	1·62	0·0366	0·37	0·18	0·19	0·26	0·15	0·40
1904	1·93	0·0116	0·43	0·18	0·15	0·35	0·12	0·66
1905	1·37	0·0033	0·26	0·13	0·15	0·15	0·14	0·52
1906	1·71	nil.	0·36	0·11	0·16	0·13	0·14	0·79
1907	1·27	0·0005	0·37	0·09	0·15	0·28	0·09	0·26
Average 10 years.	1·78	0·0066	0·34	0·15	0·19	0·23	0·17	0·65
1908	1·37	0·0005	0·18	0·10	0·16	0·24	0·12	0·54

* Membranous Croup included for first time; average since 1899, 0·18.

Tables I. and III. appended contain the district epidemic death-rates, and below are tabulated the County rates for each of the seven principal epidemic diseases in 1908, together with the corresponding rates for the whole country.

	ANNUAL DEATH-RATE PER 1,000.							
	Seven Principal Epidemic Diseases.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Enteric, Typhus, & Continued Fever).	Diarrhœa.
Urban Districts.....	1.45	nil.	0.20	0.11	0.15	0.25	0.12	0.59
Rural Districts	0.82	0.004	0.07	0.05	0.17	0.17	0.11	0.22
Administrative County of Lancaster	1.37	0.0005	0.18	0.10	0.16	0.24	0.12	0.54
England and Wales..	1.29	0.0003	0.22	0.08	0.15	0.27	0.07	0.50

In the following districts the epidemic death-rates were high, viz., Kirkham 4.13, Orrell 3.65, Farnworth 3.55, Kearsley 3.28, Prescott 3.12, Ince-in-Makerfield 3.07, Atherton 3.06, Little Hulton 2.60, and Gorton 2.55 ; while low rates prevailed in Great Crosby, Lytham, and Turton each 0.39, Trawden 0.34, Lunesdale (R.) 0.28, Heysham 0.25, Tottington 0.14, Blackburn (R.) 0.12, and nil in Carnforth, Grange-over-Sands, Little Crosby, and Little Woolton.

Small-pox caused only 2 cases with one death, the notifications being fewer than in any year since 1891. The first case appeared in Atherton, May 13th, and the second case occurred in Garstang, August 6th, the latter being a labourer of no fixed abode, aged 22 years, vaccinated in infancy with one vaccination scar. This patient was at once removed to the Elswick (Fylde, Preston, and Garstang joint)

isolation hospital, but complication rapidly took place, and death resulted three days after admission.

The incidence of small-pox since 1890 is given below :—

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1890.....	1	None.	1900.....	59	3
1891.....	2	„	1901.....	6	None.
1892.....	612	70	1902.....	436	22
1893.....	1038	84	1903.....	1156	68
1894.....	259	25	1904.....	422	22
1895.....	100	19	1905.....	255	6
1896.....	83	10	1906.....	233	None.
1897.....	3	None.	1907.....	13	1
1898.....	6	1	1908.....	2	1
1899.....	16	1			

Comparison with previous years shows that the County is enjoying a lull in regard to small-pox, but with the number of unvaccinated persons increasing year by year, there is every reason to expect the usual recrudescence of the disease in the course of three or four years.

Measles gave rise to 339 deaths, as compared with 664 in 1907, or a decrease of 325. In 1906 there were 629 deaths from this cause, 464 in 1905, 827 in 1904, 695 in 1903, 653 in 1902, and 332 in 1901. The County death-rate equalled 0·18 per 1,000 of the population (urban 0·20 rural 0·07), against a rate of 0·37 in 1907, 0·36 in 1906, 0·26 in 1905, and an average of 0·34 for the ten years 1898-1907. The rate for the year under report is the lowest recorded in the County with the exception of the year 1901 when it was exactly the same. For England and Wales the rate was 0·22, and for the 76 great towns 0·31. The monthly returns respecting 311 of the deaths from measles show that the fatalities were most numerous in the last quarter, and fewest in the third quarter :—

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
January ... 30	April 18	July..... 19	October ... 23
February... 29	May 32	August ... 20	November . 29
March..... 24	June 21	September. 15	December . 51
83	71	54	103

The ages at death were as follow :—

Under one year	80 or 23·5 per cent.
Between one and five years	234 „ 69·0 „
Five years and upwards ..	25 „ 7·3 „

In 63 districts not a single death from measles was recorded, while in 1907 there were 45 districts without a death, and 53 districts remained free in this respect in 1906. The highest death-rates from measles were attained in Kirkham 2·06, Thornton 1·13, Rishton 1·06, Chadderton 0·83, Hurst 0·81, Walton-le-Dale 0·79, and Blackrod 0·75. School closure on account of measles was adopted in 42 districts, in 1907 schools were closed in 54 districts, and in 55 in 1906.

Information as to the period of closure, percentage of school children attacked, &c., is supplied to me by district Medical Officers of Health and published in the quarterly returns. (See page xliv.)

As measles is so frequently spread in schools, more especially among infants under the age of five years, it is desirable that the school teachers should carefully watch the children under their care for the first symptoms of disease, and in case of suspicion the local Medical Officer of Health should be promptly notified. The difficulties of staying the spread of infection in the case of measles are considerably enhanced, owing to the fact that a child may

be highly infectious during the early period of attack while suffering from symptoms similar to an ordinary cold, and before the appearance of the characteristic rash on the third or fourth day. In order not to interfere unduly with educational work, extreme measures should not be undertaken until class-closure of short duration and exclusion from school of particular children have been tried and failed, but such action must not be delayed too long until perhaps twenty per cent. or more of the scholars have become infected. As stated in the Memorandum of the Local Government Board (January, 1909), measles is more or less constantly present in populous towns, and much difficulty is experienced in preventing its being introduced into schools. Although it is practically impossible to prevent the periodical appearance of epidemic disease, yet epidemics may be postponed, and "since the mortality from measles chiefly occurs among children under five years of age, in so far as the recurrence of an epidemic can be postponed, the mortality from measles will be reduced, since a larger number of children will have passed the age at which the risk of death from an attack is greatest."

Scarlet Fever contributed 6,074 cases and 193 deaths, being slightly in excess of 5,794 cases and 174 deaths recorded in the previous year. In 1906 there were 6,373 cases and 192 deaths, in 1905 7,407 cases and 239 deaths, in 1904 9,803 cases and 354 deaths, and in 1903, 10,182 cases and 350 deaths. The County rate was equal to 0·10 per 1,000 of the population (urban 0·11 and rural 0·05), against a rate of 0·09 last year, and an average for the 10 years 1898-1907 of 0·15. The rate for England and Wales averaged 0·08, and in the 76 great towns 0·10. In a report issued by the Metropolitan Asylums Board, 1907, particulars are given of a quarter of a million cases of scarlet fever treated in their hospitals since 1873, and it is interesting to note that within that

period the fatality among the admitted cases has been reduced from 12 per cent. to 3 per cent. No doubt a similar reduction in the case-fatality from scarlet fever has been observed throughout the whole Country. The percentage of deaths to cases was in the Administrative County in 1908 3·1, against a percentage of 3·0 in 1907 and 1906, 3·2 in 1905, 3·6 in 1904, 3·4 in 1903, 4·0 in 1902, and an average of 3·5 for the 10 years 1898-1907. Of the total deaths from scarlet fever, 3 or 1·5 per cent. were among children under the age of one year, 95 or 49·2 per cent. between one year and under five years, and the same proportion amongst persons five years of age and upwards. The Table below gives the monthly incidence of the disease in the districts supplying returns :—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
	Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.
Jan.	507	12	April	443	13	July	473	7	Oct.	533	11
Feb.	444	19	May	437	23	Aug.	402	10	Nov.	734	18
Mar.	454	12	June	344	12	Sept.	485	10	Dec.	714	23
	1405	43		1224	48		1360	27		1981	52

The disease had the greatest prevalence in the following districts, viz. :—

	Cases.	Deaths.	Removals to Hospital.
Accrington (B.)	232	1	—
Ashton-under-Lyne (B.)	224	4	44
Colne (B.)	153	2	3
Eccles (B.)	180	7	54
Gorton	134	5	48
Hindley	159	11	1
Ince-in-Makerfield	157	2	49

	Cases.	Deaths.	Removals to Hospital.
Lancaster (B.)	356	15	252
Leigh (B.)	147	4	87
Litherland	133	4	48
Nelson (B.)	193	6	—
Radcliffe	158	1	104
Ramsbottom	121	3	69
Stretford	137	4	62
Swinton and Pendlebury . .	198	2	31
Waterloo-with-Seaforth	126	5	54

Of the total scarlet fever cases notified, 2,121 or 34·91 per cent. received hospital isolation, as compared with a percentage of 33·93 in the preceding year, 28·14 in 1906, 31·71 in 1905, 28·48 in 1904, 28·6 in 1903, 25·9 in 1902, and 23·5 in 1901. The whole of the notified cases at Adlington, Longridge, and Ormskirk received hospital isolation, and the proportion of removals was high in the following districts :—Horwich 90 per cent., Widnes (B.) 87, West Lancashire (R.) 86, Blackrod 85, Fleetwood 85, Huyton-with-Roby 85, Chorley (B.) 83, Birkdale 82, Fylde (R.) 82, Skelmersdale 80, Lytham 78, Whiston (R.) 77, Tyldesley-with-Shakerley 75, Newton-in-Makerfield 74, Abram 72, and Tottington 72.

Difficulties encountered by the sanitary officials in their efforts to curtail the spread of this disease are mentioned in several reports.

Dr. Allkin (Denton), who had to deal with scarlet fever, mild in character, and scattered throughout the district, says “no great improvement will be effected till further means of isolating the patients are adopted; it is quite impossible to isolate such cases efficiently in cottage houses, when the nurse, who is generally the mother, mixes with the rest of the household, and inquisitive neighbours are popping in and out.”

Dr. Parker, Lancaster (B.), attributes the epidemic of scarlet fever to the occurrence of several mild cases, the nature and gravity of which parents did not recognise, and also to the custom, so common, of calling in neighbours to pass their opinion as to the nature of the patient's disease. These consultants, having examined the child and given their diagnosis, return home and convey the infection with them.

The mild character of the disease is given as the cause of many unrecognised cases being sent to school in an infective condition, and special reference is made to this subject by the Medical Officers of Health of Allerton, Hindley, Littleborough, Lytham, Radcliffe, Swinton and Pendlebury, Waterloo-with-Seaforth, Fylde (R.), West Lancashire (R.), and Whiston (R.).

Whooping Cough caused 442 deaths (urban 402 and rural 40), as compared with 511 last year, 231 in 1906, 273 in 1905, and 676 in 1904. The County rate equalled 0·24 per 1,000 (urban 0·25, and rural 0·17), against a rate of 0·28 last year, 0·13 in 1906, 0·15 in 1905, 0·35 in 1904, and an average of 0·23 for the ten years 1898-1907. The rate for England and Wales for 1908 was 0·27, and for the 76 great towns 0·29. In the districts making monthly returns 407 deaths took place; of these 171 occurred in the first quarter, 129 in the second, 64 in the third, and 43 in the fourth. The ages at death were as follow :—

Under 1 year	223	or	50·4	per cent.
Between 1 year and 5 years ..	201	„	45·4	„
Five years and upwards ..	18	„	4·0	„

The fatalities were most numerous in Atherton 23, Ashton-under-Lyne (B.) 20, Accrington (B.) 19, Swinton and Pendlebury 18, Chorley (B.) 16, and Eccles (B.) 15. In 44 districts not a single death from whooping cough was registered. School closure, on account of this disease, took place in 13 districts.

Dr. Marsh, Atherton, again urges his Council to include whooping cough in the list of notifiable diseases. He says, notwithstanding the very high mortality this year and last, it is amazing with what lightheartedness the disease is treated by the general public.

Dr. Allkin (Denton) attributes the spread of whooping cough to the ignorance of parents both as to its infectious character and proper treatment. In order to reduce the mortality from whooping cough the Medical Officer of Health of Litherland says that "parents should use more discretion in allowing patients to go out of doors unless the weather is very mild, indoor care with special attention to ventilation being preferable."

Diphtheria and Membranous Croup again showed a slight increase as compared with 1907, both as regards rate of attack and fatalities. Altogether 1,685 cases were notified, and 290 proved fatal, against 1,657 cases and 278 deaths in the previous year, 1,603 cases and 290 deaths in 1906, 1,486 cases and 280 deaths in 1905, and 1,644 cases and 290 deaths in 1904. The County rate was 0·16 (urban 0·15, and rural 0·17); last year the County rate averaged 0·15, in 1906 0·16, in 1905 0·15, and the average since 1899, when diphtheria and membranous croup were classified together for the first time, was 0·18. The rate for England and Wales, for 1908, was 0·15, and for the 76 great towns, 0·16. Diphtheria is the only one of the principal epidemic diseases which has a death-rate higher in the rural districts than in the urban districts.

According to the monthly returns 484 cases of diphtheria occurred in the first quarter, 366 in the second, 295 in the third, and 497 in the fourth. Of the deaths, 17 or 5·8 per cent. were amongst children under the age of one year, 135 or 46·5 per cent. between 1 year and 5 years, and 138 or 47·5 per cent. from five years of age and upwards. In 44 districts

there were no deaths from diphtheria and membranous croup, and the greatest prevalence took place in the following districts, viz. :—

	Cases.	Deaths.	Removals to Hospital.
Accrington (B.)	48	9	—
Ashton-in-Makerfield	147	14	104
Golborne	37	9	—
Hindley	50	11	1
Leigh (B.)	78	22	—
Levenshulme	39	6	9
Oswaldtwistle	35	4	—
Stretford	40	6	12
Waterloo-with-Seaforth	46	3	15

The case mortality equalled 17·2 per cent, against 16·7 per cent. last year. It is interesting to observe that diphtheritic anti-toxin is now supplied free of charge in 53 districts, as compared with 47 districts last year.

With respect to the causation of diphtheria the Medical Officer of Health of Huyton-with-Roby points out that the majority of the cases occurred in January, the disease being spread through contact at school, and “the neglect of parents to call in medical aid until the disease had become pronounced.” In certain districts a reduced case mortality was observed, and the Medical Officers attribute this decline to the early notification of the disease, and the free use of anti-toxin. The effect of unrecognised cases of diphtheria is also frequently mentioned as a not uncommon cause of disease distribution. An outbreak in the Crooke portion of the Shevington township (Wigan R.) was attributed by the Medical Officer of Health (Dr. Wilson), to sewage matter which had been brought by a canal boat from an outside township, and deposited at the lower side of Crooke, with the object of levelling up a field and forming agricultural land.

Fever is, in accordance with the Local Government Board Table IV., divided into “typhus,” “enteric,” and “other continued.” For the fourth year in succession typhus fever has not contributed a single case, while to other continued fevers were ascribed 14 cases, of which 3 proved fatal.

Enteric, or typhoid fever, gave rise to 1,219 cases and 225 deaths, against 859 cases and 164 deaths last year, 1,248 cases and 252 deaths in 1906, and 1,335 cases and 255 deaths in 1905. The fever death-rate corresponded to 0·12 per 1,000 of the population (urban 0·12 and rural 0·11), as compared with a rate of 0·09 for 1907, and an average of 0·17 for the 10 years 1898-1907. The rate for England and Wales was 0·07, and for the 76 great towns 0·08. The case mortality in 1908 was 18·4 per cent., against 19·0 per cent. in 1907, 20·4 per cent. in 1906, and 18·9 per cent. in 1905. The incidence of enteric fever in the districts which supply monthly returns was as follows :—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
	Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.
Jan.	73	19	April	69	10	July	57	10	Oct.	172	15
Feb.	62	8	May	88	13	Aug.	104	14	Nov.	154	32
Mar.	52	15	June	45	8	Sept.	124	23	Dec.	182	33
	187	42		202	31		285	47		508	80

In 44 districts there were no deaths from enteric fever, last year 58 districts escaped, and 39 districts in 1906. The disease was most pronounced in Accrington (B.) 22 cases 4 deaths, Ashton-in-Makerfield 36 cases 4 deaths, Ashton-under-Lyne (B.) 30 cases 4 deaths, Atherton 44 cases 7 deaths, Darwen (B.) 23 cases 8 deaths, Farnworth 45 cases 4 deaths,

Fleetwood 21 cases 5 deaths, Gorton 26 cases 8 deaths, Ince-in-Makerfield 25 cases 7 deaths, Leigh (B.) 24 cases 7 deaths, Radcliffe 25 cases 7 deaths, Swinton and Pendlebury 37 cases 7 deaths, Tyldesley-with-Shakerley 82 cases 13 deaths, Widnes (B.) 44 cases 5 deaths, and West Lancashire (R.) 22 cases 2 deaths.

Dr. Hannah (Ashton-in-Makerfield) refers to the occurrence of several cases of enteric fever, which were probably due to an "ambulatory" case which remained undetected. In the following districts shell-fish—mussels—were the suspected cause of disease :—Darwen (B.), Kearsley, Levenshulme, Little Hulton, Rawtenstall (B.), St. Annes-on-the-Sea, Tyldesley-with-Shakerley, Chorley (R.), and Leigh (R). The extent of the danger from this source is undoubtedly great, and should induce the Board of Agriculture and Fisheries to take action, without further delay, for the protection of the public health.

In the district reports the privy midden nuisance gives rise to much comment and condemnation, and there is a strong demand for the paving of backyards and passages, as well as the provision of suitable receptacles for house refuse and garbage. Dr. Blakemore (Tyldesley-with-Shakerley) urges his Council to "continue their persistent efforts to rid the district of recurrent outbreaks of enteric fever, by insisting on thorough scavenging, scrupulous cleanliness, immediate removal of all fly-breeding and soil contaminating filth," and he adds that the contemplated purchase of a refuse destructor would, undoubtedly, assist in this respect, as would also a strict watch over the food and water supply.

Diarrhœa, including one death registered as English cholera, was responsible for 991 deaths; in the previous year the deaths due to diarrhœa numbered 468, in 1906 1,387, in 1905 924, and in 1904, 1,245. The County rate was equal

to 0·54 per 1,000 of the population—0·59 in urban, and 0·22 in rural districts—and for the 10 years 1898-1907 it averaged 0·65. The rate for England and Wales for 1908 was 0·50, and in the 76 great English towns 0·65. The diarrhoea rates recorded in the following districts were high, viz :—Orrell 2·99, Farnworth 2·55, Ince-in-Makerfield 2·13, Kearsley 1·94, Prescott 1·87, Haydock 1·71, Heywood (B.) 1·51, Gorton 1·40, Leigh (B.) 1·32, and Irlam 1·27.

The County rates from diarrhoea are tabulated below, and also those of England and Wales and the 76 great towns for the years 1908-1898 :—

	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898
Urban Districts	0·59	0·27	0·83	0·54	0·69	0·42	0·30	1·01	0·65	1·12	1·06
Rural Districts	0·22	0·16	0·50	0·34	0·41	0·26	0·14	0·52	0·27	0·53	0·55
Administrative County..	0·54	0·26	0·79	0·52	0·66	0·40	0·28	0·95	0·60	1·05	1·00
England and Wales	0·50	0·29	0·87	0·59	0·86	0·50	0·38	0·91	0·69	0·98	0·96
*76 Large English Towns	0·65	0·40	1·16	0·83	1·20	0·71	0·54	1·23	0·94	1·21	1·22

* The rates previous to 1901 refer to 33 Towns.

The monthly incidence of diarrhoea in 1908, as shown by the deaths occurring in districts making monthly returns is given in the following Table :—

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
January ... 22	April 17	July.....101	October ...206
February... 16	May..... 30	August ...396	November.. 89
March 22	June 25	September.287	December.. 31
60	72	784	326

Of the diarrhœa deaths 739 or 74·5 per cent. occurred among children under the age of one year, 178 or 17·9 per cent. between 1 and five years, and 74 or 7·4 per cent. from 5 years and upwards. Of the 739 deaths under 1 year, 186 occurred among children under the age of 3 months, 253 from 3-6 months, 190 from 6-9 months, and 110 from 9-12 months. As the mortality from diarrhœa is so much influenced by atmospheric conditions, it may be mentioned that during the whole of the year, the temperature at Stonyhurst averaged 47·2° F., and the rainfall 48·3 inches, as compared with a mean temperature of 46·2° F., and a rainfall of 49·9 inches recorded in the previous year.

Dr. Martin (Gorton) in a special report to the Local Government Board respecting the prevalence of diarrhœa during the summer and autumn months, reported that in his district there were 43 deaths of infants under one year of age from diarrhœal diseases. Investigation into the closet accommodation of the houses in which the deaths occurred revealed the fact that 35 of the deaths were in houses provided with privy middens, 5 deaths in houses in which the privy middens had been altered to water closets but which were surrounded with privy middens, and 3 deaths in water closet houses surrounded with other houses similarly supplied.

Epidemic Influenza occasioned 329 deaths, against 270 last year, 211 in 1906, 205 in 1905, and 196 in 1904, the mortality being higher than in any year since 1900, when 801 deaths were attributed to this cause. The deaths were most numerous in Accrington (B.) 15, Bacup (B.) 10, Chadderton 8, Darwen (B.) 10, Heywood (B.) 8, Newton-in-Makerfield 12, Widnes (B.) 14, and West Lancashire (R.) 10. As usual the mortality was most marked in the first quarter of the year, the second and fourth quarters produced almost a similar number of deaths, and the third quarter the least.

Respiratory Diseases, comprising bronchitis, pneumonia, and pleurisy, contributed 4,593 deaths, or 17·6 per cent. of the total mortality. In 1907 there were 5,171 deaths, equal to 20·1 per cent., in 1906 4,400 deaths or 17·2 per cent., in 1905, 4,557 deaths or 17·9 per cent., and in 1904, 5,424 deaths or 18·5 per cent.

Below are given the respiratory death-rates per 1,000 of the population for 1908 compared with the preceding four years :—

	1908.	1907.	1906.	1905.	1904.
Urban Districts	2·59	2·99	2·60	2·66	2·94
Rural Districts.	2·18	2·29	1·90	1·94	2·42
Administrative County	2·54	2·90	2·52	2·56	2·88

The County rate for the 10 years 1898-1907 averaged 2·91 per 1,000, or 0·37 above the rate for 1908, and excepting 1906, the rate for the year under review is the lowest recorded. The highest respiratory rates were attained in Aspall 5·48, Blackrod and Prescot each 5·0, Trawden 4·81, Ince-in-Makerfield 4·27, Leigh (B.) 4·06, Westhoughton and Skelmersdale each 4·0.

Heart Diseases contributed 2,335 deaths, or 98 less than last year. The rate per 1,000 of the population was 1·29, against 1·36 in 1907, 1·33 in 1906, 1·24 in 1905, and an average of 1·29 for the 10 years 1898-1907.

Phthisis (Pulmonary Tuberculosis) was credited with 1,541 deaths, or 134 fewer than in 1907, and equal to a percentage to total deaths from all causes of 5·9. The County

rate averaged 0·85—in urban districts 0·87, and in rural districts 0·69, and gave a lower rate than in any previous year.

The following Table gives the rate for 1908 as compared with the previous four years :—

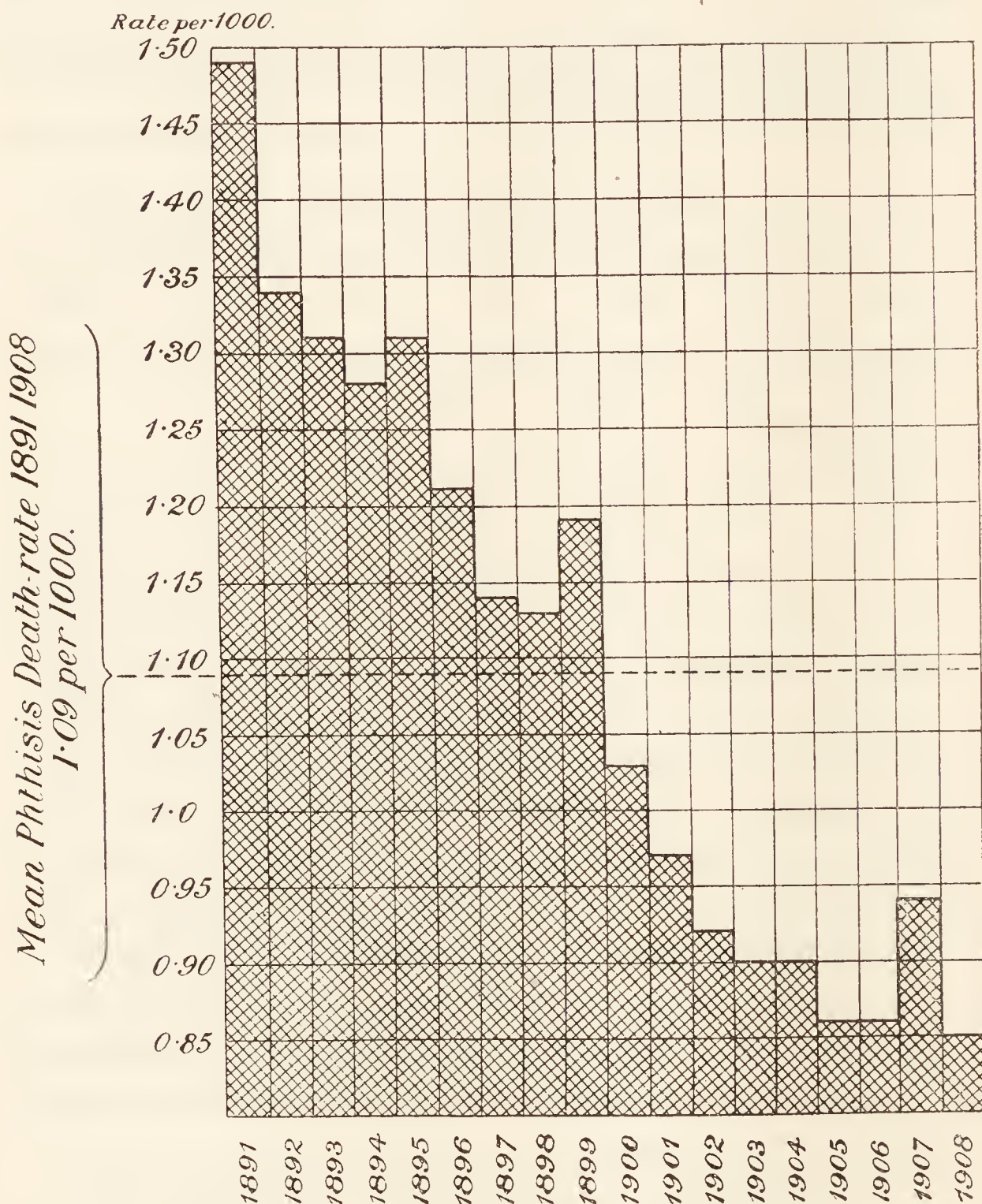
	1908.	1907.	1906.	1905.	1904.
Urban Districts	0·87	0·95	0·89	0·87	0·92
Rural Districts.	0·69	0·85	0·63	0·78	0·70
Administrative County	0·85	0·94	0·86	0·86	0·90

As the rate for the past decade 1898-1907 averaged 0·97 per 1,000, the rate for 1908 was, therefore, 0·12 below the mean, and represented a saving of 216 lives per annum. The highest rates were recorded in Longridge 2·55, Grange-over-Sands 2·0, Bispham-with-Norbreck 1·65, Little Crosby 1·58, Kirkham 1·55, Brierfield 1·54, Clitheroe (R.) 1·53, Middleton (B.) 1·52, Heywood (B.) 1·51, Orrell 1·49, Ashton-under-Lyne (B.) 1·48, and Little Lever 1·45. In some of the above districts the rate has been increased by deaths of visitors.

From the statistics of the Registrar-General for England and Wales, given below, it is satisfactory to observe a continuous improvement in the death-rates from phthisis during the past 26 years :—

Quinquennial Periods.	Mortality per Million.		
1882-1886 1,813
1887-1891 1,607
1892-1896 1,403
1897-1901 1,314
1902-1906 1,192
1907 1,140

The following diagram shows the annual County deaths from tuberculous phthisis from 1891-1908 in relation to the mean of that period :—



In 20 of the County districts arrangements have been made for the voluntary notification of phthisis. So far, comparatively few notifications have been received, and there is little prospect of success until compulsory powers are adopted, similar to those applicable to infectious diseases. Disinfection of rooms after phthisis, and the distribution of leaflets

respecting this disease and the precautions to be taken in case of attack have been productive of good results.

Other tuberculous diseases contributed 864 deaths, and, with the 1,541 deaths from phthisis, were responsible for a rate equal to 1·33 per 1,000 of the population. In the previous year the rate was 1·37, in 1906 and 1905 it was 1·31, in 1904 1·41, and in 1903 1·38.

With respect to tuberculous phthisis the Registrar-General says in his report for 1907, that “ between the decennium 1851-60, and the quinquennial period last ended, there has been a fall of 70 per cent. in the mortality from this disease, amongst persons of both sexes below the age of 25 years. From that age onward, to the close of life, the fall has been considerably less marked, and has been more pronounced in females than in males. As compared with the rural death-rate from phthisis at all ages, the urban rate was higher by 26 per cent. among males, but lower by 5 per cent. among females.”

The statistics for the Administrative County, in respect of phthisis, are only available for the past 18 years, and these show an almost continuous decrease in the death-rate from 1·49 per 1,000 of the population in 1891, to 0·85 for the year under report. This decline represents a saving of over 1,100 lives per annum, besides an incalculable diminution of sickness and suffering. It has been estimated that if there had been no phthisis in England and Wales the average length of life for each individual born would have been increased by two and a half years, and that persons who survived at the age of 15 would have had their average expectation of life increased by about three and a quarter years. These hypothetical gains are nearly equal to those which would be obtained by abolishing the whole group of ailments which are classed together as “ the seven principal epidemic diseases.”

Cancer.—Under this heading should be included all registered deaths from causes comprised within this general term ; thus, deaths should be included from “cancer, carcinoma, malignant disease, scirrhus, epithelioma, sarcoma, villous tumour, and papilloma of bladder, rodent ulcer.” From these causes 1,283 deaths were registered, or 29 more than last year, equivalent to a death-rate of 0·71 per 1,000 ; in urban districts the rate was 0·71, and in rural districts 0·60.

The deaths and rates for each year since 1900 (when cancer was first included in the Local Government Board Tables) are given below :—

Year.	No. of Deaths.	Death-rate per 1,000 living.
1900	1,072	0·54
1901	1,149	0·62
1902	1,113	0·60
1903	1,223	0·65
1904	1,229	0·65
1905	1,164	0·65
1906	1,214	0·69
1907	1,254	0·70
Average 1900-7	1,177	0·63
1908	1,283	0·71

Notification of Infectious Diseases. — The total cases of infectious disease notified during the year numbered 10,390, or 194 fewer than in 1907, 729 less than 1906, 3,225 less than 1905, and 7,215 less than 1904. As compared with the previous year, there was a diminution of 668 in the number of notifications of measles, erysipelas 148, and small-pox, chicken-pox, and the other notifiable diseases 54, while notifications were more numerous from

scarlet fever 280, enteric fever 360, and diphtheria, continued fever, and puerperal fever 36. In the following Table the cases notified during 1908, as well as those for the previous year, are classified :—

Diseases.	1908.			1907.		
	Urban Districts.	Rural Districts.	Total.	Urban Districts.	Rural Districts.	Total.
Small-pox	1	1	2	10	3	13
Scarlet Fever	5536	538	6074	5130	664	5794
Diphtheria and Membranous Croup	1452	233	1685	1428	229	1657
Typhus Fever .....	...	...	...	...	...	...
Enteric Fever	1085	134	1219	776	83	859
Continued Fever...	14	...	14	11	1	12
Puerperal Fever ...	127	13	140	127	7	134
Erysipelas	966	130	1096	1114	130	1244
Measles	111	2	113	736	45	781
Chicken-pox	44	3	47	85	3	88
Relapsing Fever ...	...	...	...	...	...	...
Cholera .....	...	...	...	...	1	1
Others .....	...	...	...	1	...	1
Total.....	9336	1054	10390	9418	1166	10584

Measles is now compulsorily notifiable in four districts, viz., St. Annes-on-the-Sea, Standish-with-Langtree, Upholland, and Lunesdale (R.). The Medical Officers of Health of Bispham-with-Norbreck and Withnell hope to see measles notifiable in their districts, and to illustrate how differently this subject is viewed, the Medical Officer of Health of Lunesdale (R.) reports on the “inutility of retaining this disease amongst those which are notifiable,” for although not more than two cases of measles were notified, in several portions of the district the disease prevailed extensively, and at Nether Kellett school closure had to be resorted to.

Chicken-pox is notifiable in Bacup (B.) and Lunesdale (R.). Cerebro-spinal fever is still notifiable in Audenshaw, Hurst, and Newton-in-Makerfield, but not a single case of this disease has been reported during the year. Reference has already been made to the voluntary notification of tuberculous phthisis.

School Sanitation.—According to the district annual reports Medical Officers of Health advised the closure of schools as under :—

On account of Measles	..	..	in	42	districts.
„	Scarlet Fever	..	„	12	„
„	Whooping Cough	„	„	13	„
„	Diphtheria	..	„	3	„
„	Chicken-pox	..	„	3	„
„	Mumps	..	„	3	„
„	Influenza	..	„	5	„
„	Sore Throat	..	„	1	district.

The following tabulated statement, respecting period of closure, percentage of scholars attacked, &c., is compiled from the special reports supplied to the County Council in accordance with Article 18 (16) of the Local Government Board Order, 1891 :—

DISEASE.	Number of Schools closed (including Infant De- partments).	Period of Closure.	Percentage of Scholars attacked.	Total number of weeks Schools closed.
Measles	85	1—9 weeks	5—60	255
Scarlet Fever	7	1—7 weeks	10—20	24
Diphtheria	5	2—6 weeks	...	14
Whooping Cough	33	2—6 weeks	12—61	110
Chicken-pox	5	2—3 weeks	...	12
Mumps	4	1—2 weeks	...	7
Influenza	13	2—3 weeks	...	30

Altogether there were 152 schools closed, the total period of closure comprising 452 weeks.

In dealing with the public elementary schools it should be borne in mind that the new duties thrown upon Local Education Authorities by Section 13 of the Education (Administrative Provisions) Act, 1907, do not supersede in any way those powers hitherto exercised generally, in a public health sense, by sanitary authorities under previous enactments—rather it is supplementary to existing public health law in that it requires supervision of the health of the individual child. Reports received from local Medical Officers of Health show that very great care has been taken to combat the outbreaks of infection which are constantly occurring among children of school age, and it has not infrequently been found that failure of precautionary measures to stay the spread of an epidemic, due to the prevalence of disease in a mild and unrecognised form, has led to the closing of schools. As stated in a Memorandum of the Local Government Board (January, 1908), in rural districts, where epidemic diseases are less frequently prevalent, school closing may be required as an exceptional measure to meet an exceptional state of things, but in populous towns if schools had to be closed whenever an infectious disease was prevalent, they would, in many places, be rarely open. With respect to school sanitation reference must be made to the old fashioned privy, emptied at long intervals, which forms a too common method of excrement disposal. For such a system there can be no defence, and in rural districts where the drainage does not allow the adoption of latrines, earth closets should be provided. Much importance is attached to a pure drinking water—more particularly in rural areas where the supply is not always above suspicion—and to the standard of cleanliness adopted in lavatories, cloakrooms, and schoolrooms, especially the floors of the latter, which, as a rule, are inadequately cleansed.

Isolation Hospitals.—The tabulated particulars given below, together with Table (B.) appended, show the position of the County urban and rural districts in regard to hospital accommodation :—

	Boroughs.	Urban Districts.	Rural Districts.	County.	Reference Table (B).
Districts provided with hospitals for small-pox, other infectious diseases, or both.....	18	91	19	128	Col. (1) & (2)
Of these					
10 possess small-pox hospitals, and have an arrangement for sending infectious cases to hospitals in other districts	1	8	1	10	(1b) & (2b)
18 possess small-pox hospitals only..	7	7	4	18	(1c)
31 claim the privilege of sending infectious cases to hospitals in other districts	2	25	4	31	(2a)
7 claim the privilege of sending small-pox cases to hospitals in other districts	1	6	..	7	(2c)
Districts without any hospital accommodation .....	...	3	...	3	(4)

Included in the above (see Table (B) col. 3) are 13 districts combined under the Wigan and District Joint Hospital Order for the purpose of providing a small-pox hospital, and 5 districts have schemes under consideration for providing hospitals for ordinary infectious diseases.

The principal changes during the year were as follow : —

- Barrowford.....Arranged with Burnley Joint Hospital Board for treatment of cases other than small-pox.
- Formby.....Arranged with Bootle Corporation for treatment of all diseases—previously had sent cases to Birkdale.

TABLE. B.

HOSPITAL PROVISION IN VARIOUS DISTRICTS OF THE ADMINISTRATIVE COUNTY.

(PARTICULARS TAKEN FROM THE HEALTH REPORTS FOR THE YEAR 1908).

DISTRICTS WITH HOSPITALS.			DISTRICTS CLAIMING THE PRIVILEGE OF SENDING PATIENTS TO HOSPITALS AS PRINTED IN PARENTHESES.		DISTRICTS WITH HOSPITAL SCHEMES IN PROGRESS.
(1)			(2)		(3)
(1a)			(2a)	For Infectious Diseases other than Small-pox. (See Col. 1b.) (2b)	
Abram.	Brierfield.	Joint with Burnley C.B.	Allerton (Whiston R.).	f Audenshaw (Hyde).	Abram.
Ashton-in-Makerfield	Padiham.		Aspull (Wigan).		Ashton-in-Makerfield.
f Ashton-under-Lyne B.	Burnley R.	Joint with Bury C.B.	d Barrowford (Burnley).	Chadderton.	Aspull.
Birkdale.	Radcliffe.		* Childwall (Liverpool).	Crompton.	Billinge.
* Carnforth.	Ramsbottom.		* Croston (West Lancashire R.).	Royton.	Blackrod.
Darwen B.	Tottington.		Denton (Hyde).	(Oldham.)	Hindley.
§ Gorton.	Whitefield.	* Joint.	Droylsden (Hyde).		Horwich.
Heysham.	Bury R.		Eccles B. (Salford).	Colne B. (Burnley Joint).	Ince-in-Makerfield.
h Hindley.	† Horwich.	Joint.	Failsworth (Oldham).	Heaton Norris (Salford).	Orrell.
Ince-in-Makerfield.	† Westhoughton.		Formby (Bootle).	Preesall (Fylde Joint).	Standish-with-Langtree.
Lancaster B.	Blackrod.	Joint.	e Grange-over-Sands (Kendal).	Swinton and Pendlebury (Salford).	Upholland.
Morecambe B.	Littleborough.		Great Crosby (Liverpool).	Worsley (Salford).	Westhoughton.
Lathom & Burscough.	Milnrow.	Joint.	† Haydock (St. Helens).	Sefton R. (Liverpool).	Wigan R.
Ormskirk.	Wardle.		Huyton-with-Roby (Whiston R.).	For Small-pox only—no provision for other Infectious Diseases. (2c)	Ashton-under-Lyne B.
h Skelmersdale (Cottage).			a Kearsley (Salford).		Audenshaw.
* Upholland.	Districts with Hospitals for Small-pox, but having an arrangement with other Dis- tricts for the treatment of ordinary Infectious Diseases. (See Col. 2b.) (1b)		Levenshulme (Manchester).	* Bacup B. (Todmorden).	Hurst.
Walton-le-Dale.			Litherland (Bootle).		Limehurst R.
Widnes B.			* Little Crosby (Liverpool).	* Church (Blackburn).	g Garstang R.
* Withnell.			Little Woolton (Whiston R.).	* Clayton-le-Moors (Accrington).	
Lunesdale R.			Middleton B. (Rochdale).	* Irlam (Salford).	f Joint scheme for ordinary infectious diseases.
West Lancashire R.			Much Woolton (Whiston R.).	* Lees (Oldham).	
Whiston R.			Newton-in-Makerfield (Liverpool and Warrington).	* Trawden (Colne).	Site pur- chased for hospital for ordinary infectious diseases.
Atherton.	* Audenshaw.	f Joint with Ashton (B.), &c.	Prescot (Whiston R.).	* Turton (Bury Joint).	
Golborne.	Chadderton.		Prestwich (Salford).		
Leigh B.	Crompton.	* Joint.	Stretford (Salford).		
Tyldesley.	Royton.		Urmston (Salford).		
Leigh R.			Waterloo-with-Seaforth (Liverpool).		
Farnworth.	* Colne B.	Joint with Cheadle, Cheshire.	Barton-upon-Irwell R. (Salford).		
Little Hulton.	* Heaton Norris.		Blackburn R. (Blackburn B.).		
Little Lever.	* Preesall-with-	Joint with Fylde, Preston, and Garstang Unions.	Lancaster R. (Lancaster B.).		
Adlington.	Hackinsall.		Warrington R. (Warrington B.).		
Chorley B.	Swinton and	* Joint.			
Leyland.	Pendlebury.				
Chorley R.	Worsley.				
Dalton-in-Furness.					
Ulverston.	* Sefton R. (Cottage).				
Ulverston R.					
† Fleetwood.					
Kirkham.					
Lytham.					
St. Annes.					
Poulton.					
Thornton.					
Bispham.					
Fylde R.					
Preston R.					
Fulwood.					
Longridge.					

* Not used during the year. † Port Hospital also provided. ‡ Temporary accommodation for small-pox also provided. || Joint for all purposes. ¶ Used during 1908 for enteric fever case.
§ Hospital provided for small-pox used for other diseases until October; after that date cases sent to Manchester and Hyde. Arrangements for treatment of small-pox cases:—a Bury, &c. Joint Board at Ainsworth Hospital, b Blackburn Corporation Finnington Hospital, c Barrow Corporation, d Nelson B. e Prior to arrangement with Kendal 3 cases sent to Ulverston &c., Joint Hospital. h Hospital provided for small-pox now used for other diseases.

- Gorton.....Small-pox hospital used for the treatment of ordinary infectious diseases until October; after that date arrangement made with Manchester and Hyde Corporations.
- Grange-over-SandsArranged with the Kendal Corporation for the treatment of infectious cases.
- Hindley.....Council decided to apply to Local Government Board for power to borrow £8,300, for the provision of an infectious diseases hospital to contain 24 beds.
- LevenshulmeDuring epidemic of scarlet fever special temporary arrangement made with Manchester for the use of an additional number of beds, and also with the Hyde Corporation.
- | | | |
|-----------------------|---|---|
| Ashton-under-Lyne(B.) | } | In December a Local Government Board Inquiry was held respecting an application of the Joint Hospital Board, to erect, on land at Hartshead, a hospital for the treatment of diseases other than small-pox. |
| Audenshaw..... | | |
| Hurst..... | | |
| Limehurst (R.) | | |
- Garstang (R.).....Site purchased on which to erect hospital for the treatment of diseases other than small-pox.

The Joint Hospital Committee, formed by Order of the County Council, May 7th, 1903, to make provision for the isolation of small-pox in the following districts:—Abram, Ashton-in-Makerfield, Aspull, Billinge, Blackrod, Hindley, Horwich, Ince-in-Makerfield, Orrell, Standish-with-Langtree, Upholland, Westhoughton, and Wigan (R.), has been

negotiating for the purchase of a site on which to erect a small-pox hospital, but beyond that has not, so far as I am aware, made any practical progress towards securing the object for which they were joined together.

Hospital accommodation (apart from districts with provision for small-pox only and those claiming the privilege of sending cases to hospitals outside their areas) is now provided in 62 districts, Table B, column (1a). In these districts 5,240 cases of infectious disease were notified (excluding measles and chicken-pox), and 2,246 or 42·8 per cent. received hospital isolation, as compared with 38·1 per cent. in the preceding year, 40·8 in 1906, 40·0 in 1905, 36·9 in 1904, and 41·0 in 1903. The total number of scarlet fever cases notified in these districts amounted to 2,994, and 1,629 or 54·4 per cent. were removed, against 48·3 per cent. removed from hospital districts in the previous year, 51·3 in 1906, 48·8 in 1905, 41·6 in 1904, and 45·3 in 1903. Of the scarlet fever patients removed from the before-mentioned districts provided with hospitals 49 died, equal to a case mortality of 3·0 per cent., as compared with a percentage of 2·8 in 1907, 2·7 in 1906, 2·0 in 1905, and 2·6 in 1904 and 1903. The remainder of the scarlet fever attacks in these districts (1,365) were treated at home, and 52 or 3·8 per cent. had a fatal termination.

Forty-eight districts, Table B, column (2), claim the privilege of sending cases to hospitals in other districts, but 10 of these, column (2b), are themselves provided with small-pox hospitals, and in 7, column (2c), the arrangement made with the district given in parenthesis, is for the treatment of small-pox cases only. In the districts from which ordinary infectious cases are removed, 3,009 cases were notified, and 721 or 23·9 per cent. received hospital isolation, as compared with a percentage of 22·4 removed last year from districts having the privilege above mentioned. In 4 of these districts

advantage was not taken of the hospital accommodation available, or it was not required, and in 16 others the removals varied from 1 to 9.

Disinfection.—The following information is taken from the local health reports :—

Districts provided with steam apparatus ..	23
„ using steam apparatus at infectious hospitals	32
„ using steam apparatus belonging to other districts (mainly County or Municipal Boroughs)	13
„ provided with dry-heat apparatus	6
„ using dry-heat apparatus belonging to other districts	3
„ using formaldehyde apparatus at hospital (Gorton)	1
„ being provided with steam apparatus (Swinton and Pendlebury)	1
„ without proper appliances ..	52
	<hr/>
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Appended is a list of some of the larger districts not provided with disinfecting appliances :—Audenshaw, Bacup (B.), Barrowford, Billinge, Clayton-le-Moors, Clitheroe (B.), Colne (B.), Denton, Droylsden, Failsworth, Great Harwood, Irlam, Newton-in-Makerfield, Norden, Orrell, Prestwich, Rainford, Rishton, Standish-with-Langtree, Turton, Upholland, Whitworth, Blackburn (R.), Clitheroe (R.), Wigan (R.), &c.

Sanitary Administration. — In the appended summarised reports will be found details of the sanitary work carried out in each district. The total nuisances abated in the whole County area numbered 41,470, as compared with

42,308 in the previous year ; 21,735 notices were served, and legal proceedings followed in 74 instances.

The Public Health Acts Amendment Act, which came into operation on the 1st January, 1908, contains provisions which will prove extremely valuable in district administration. Clauses are introduced for preventing the use of rain water pipes as soil pipes, and the use of water or stack pipes as ventilating shafts. Local authorities may also require old drains to be laid open for examination by the Surveyor before communicating with sewers, and provision is made for the testing of drains on the report of defects. Facilities are given for the provision and conversion of closet accommodation, the filling up of cesspools, the removal of trade refuse, and the provision of sinks and drains for buildings. Under the part dealing with infectious diseases power is given to require dairymen supplying "suspected" milk to furnish a list of sources of supply, and dairymen are to notify infectious disease among their servants. Furthermore, infected clothes are not to be sent to a laundry, and filthy and dangerous articles are to be purified, while a child suffering from infectious disease is not to attend school. A local authority can refrain from recovering the cost of maintenance in hospital from a patient who is not a pauper when they have satisfied themselves that the circumstances of the case are such as to justify the remission of the debt, and they may provide nurses for attendance on patients suffering from any infectious disease in their district, who, owing to want of accommodation at the hospital, or danger of infection, cannot be removed to the hospital, or in cases where removal to the hospital is likely to endanger the patient's health. The local authority may charge such reasonable sums for the services of nurses provided by them as they think fit. There are also useful sections in the Act with regard to the regulation of common lodging-houses, control of recreation grounds, the provision of bathing places, &c.

Privy Middens.—Eighty-eight urban districts have supplied the following information respecting closet accommodation :—

Number of privy middens	..	..	52,822
„ pail closets	..	..	51,662
„ fresh-water closets	..	..	98,109
„ waste-water closets	..	..	63,871

Conversions from privy middens have taken place during the year as below :—

Privies converted to water closets	..	3,695
„ „ pail closets	..	120
Pails converted to water closets	..	77

In the following districts conversions to the water carriage system were most numerous :—Ashton-under-Lyne (B.) 182, Atherton 143, Dalton-in-Furness 97, Denton 220, Eccles (B.) 363, Failsworth 124, Farnworth 97, Gorton 258, Heywood (B.) 97, Lytham 101, Prestwich 89, Radcliffe 132, Ramsbottom 104, Stretford 126, Swinton and Pendlebury 272, Tyldesley-with-Shakerley 114, Whitefield 98.

The local reports frequently refer to the menace to public health inherent to the privy midden system, and one Medical Officer of Health speaks of the impossibility of his district being free from enteric fever and diphtheria so long as the privy middens remain in their present condition, badly constructed, and allowing pollution of air and surrounding soil.

Housing of the Working Classes.—References are contained in 40 reports as to the action taken with regard to insanitary houses. The information obtained is given below :—

	Con- demned.	Closed.	Demolished.	Made Habitable.
Urban Districts	.. 141	51	58	172
Rural Districts	.. 23	8	6	12
Administrative County	164	59	64	184

In none of the County districts has sufficient activity been displayed in this direction; some of the rural districts exhibit the worst specimens of insanitary dwellings, where privy abominations, combined with want of drainage and impure water, produce the most favourable conditions for the propagation of epidemic disease.

Overcrowding is serious in certain districts: in Adlington complaint is made of the existence of a number of ancient houses with low ceilings and deficient ventilation, while in Billinge, dearth of house accommodation for the artisan class has led to overcrowding, and the occupation of much old property which ought to be demolished. In Eccles (B.), as a result of inspection, much overcrowding of dwellings had been discovered; 32 notices were required, and in one case legal proceedings had to be instituted. The Medical Officer of Health, Worsley, says that "one of the worst evils in the district is overcrowding"; two convictions in the Police Court drew some attention to the matter, but the difficulty is the scarcity of houses. Had there been any empty property there would have been more prosecutions.

Canal Boats.—Under the Acts applicable to canal boats, 1,236 inspections have been made, and 78 infringements of the regulations observed. Last year the inspections numbered 1,407, and the infringements 45. The boats examined were numerous—in Heywood (B.) 53, Lancaster (B.) 86, Leigh (B.) 140, Widnes (B.) 56, Worsley 62, Lancaster (R.) 62, Leigh (R.) 163, West Lancashire (R.) 51, and Wigan (R.) 64.

Slaughter-houses.—According to the reports received from Medical Officers of Health, public abattoirs are provided at Accrington (B.), Chorley (B.), Clitheroe (B.), Colne (B.), Darwen (B.), Fleetwood, Great Harwood, Lancaster (B.), Lytham, Newton-in-Makerfield, Oswaldtwistle, and St. Annes-on-the-Sea.

From the notes supplied by Medical Officers of Health, it appears that the majority of slaughter-houses are well conducted and in fair condition, but some are old buildings, unsuited for their purpose, and in too close proximity to dwelling-houses. References are made respecting the difficulties experienced in carrying out efficient inspection of meat in private slaughter-houses, and to the desirability of local authorities providing themselves with public abattoirs. Dr. Harris (Chorley B.), complains that the local abattoir is not up to the present date requirements, and for some considerable time he has urged his Council to effect certain essential alterations. The Medical Officer of Health, Lytham, says that the old insanitary slaughter-houses were abandoned during the early part of the year, and since then slaughtering has taken place in the new abattoir, where the work has been carried out under the most satisfactory conditions from the point of view of inspection, cleanliness, and convenience. At Padiham the slaughter-houses are mostly old buildings, not provided with the best sanitary conditions, and in some cases the premises are in close proximity to dwellings. Concentration and better supervision would be obtained by the provision of a public abattoir.

In several districts large seizures of unsound or diseased meat took place, for instance :—Chorley (B.), Clayton-le-Moors, Colne (B.), Heywood (B.), Hindley, Lancaster (B.), Leigh (B.), Middleton (B.), Newton-in-Makerfield, St. Annes-on-the-Sea, Stretford, Turton, Westhoughton, Widnes (B.), and Lancaster (R.). Legal proceedings were instituted for exposing diseased meat for sale at Denton, and a fine of £10 and costs imposed. At Leigh (B.), for exposing unsound food for sale, prosecutions were instituted in two instances; in one case a penalty of two months imprisonment was inflicted without the option of a fine, and in the other case costs were obtained.

At St. Annes-on-the-Sea an outbreak of food poisoning occurred during the early part of July, about 80 persons being

affected, and 3 deaths resulted. The cause of the outbreak was clearly traced to the consumption of potted meat and pork pies, which had in all cases been procured from one shop, and were found on bacteriological examination to be infected with a disease producing bacillus, the *B. enteritidis* of Gaërtner. In order, if possible, to guard against outbreaks of a similar kind, the Medical Officer of Health has issued regulations to those engaged in his district in the manufacture or sale of food.

In August another outbreak of food poisoning took place at Mossley (B.), and this was also attributed to the consumption of meat pies. The cases which occurred within the County numbered 6, and one had a fatal termination. The cause of this outbreak—as well as a few cases which came under notice just outside the County area (Saddleworth)—was found to be due to the presence in the food of the *B. enteritidis* of Gaërtner.

Dairies, Cowsheds, and Milkshops.—During the year regulations under the Dairies, Cowsheds, &c., Order came into operation in 5 additional districts, viz., Poulton-le-Fylde, Chorley (R.), and Lunesdale (R.) in January, Trawden in March, and Leyland in November. There are now 125 districts—106 urban, and 19 rural—provided with regulations, and only 6 small districts are unprovided in this respect: Allerton, Barrowford, Childwall, Little Crosby, Orrell, and Skelmersdale. “Revised” regulations have become operative during the year in Bacup (B.), Great Crosby, Hurst, and Little Hulton. Although regulations are now generally adopted, enforcement too often remains in abeyance, and conditions are allowed to exist which jeopardise seriously the purity and the cleanliness of the milk supply.

The following references contained in the health reports respecting the cowsheds, show that in many instances they

are far from satisfactory, and ought to receive the attention of the Authorities concerned :—

Bacup (B.) :—Very few of the premises comply with the requirements ; many are dark, and defective as regards ventilation, paving, and channelling.

Darwen (B.) :—The conditions under which cows are kept and milked are often not satisfactory, the proper grooming of the cattle, the cleansing of the udders and teats of the cows, and the hands of the milkers are neglected.

Oswaldtwistle :—With few exceptions the air space in the shippens is insufficient, and in many cases the lighting, ventilation, and drainage are defective.

Rawtenstall (B.) : — Very few of the byres are of sufficient size, and, as a rule, are badly lighted and ventilated. Regulations have been adopted, but their provisions are not strictly enforced.

Factories and Workshops.—Details are now supplied by the various districts concerning the action taken in respect of factories and workshops. The information received relating to inspections, &c., is given in the Table below :—

	FACTORY INSPECTION.						Total No. of Work- shops on Register.
	No. of Inspec- tions.	No. of Written Notices.	No. of Prosecu- tions.	No. of Defects.			
				Found.	Remedied.	Referred to H.M. Inspector of Factories.	
Administrative County.....	15791	619	..	1136	1070	5	8267
Urban Districts	14466	572	..	1050	990	5	7613
Rural Districts.	1325	47	..	86	80	..	654

The reports of Medical Officers of Health give ample testimony to an increasing amount of attention paid to the sanitation of factories and workshops. Great improvements

have been carried out, without resort to legal proceedings, in regard to ventilation and the provision of better closet accommodation.

Bakehouses in most of the districts are reported as being in a satisfactory condition. According to the information given on the special form relating to factories and workshops, 119 underground bakehouses continue to be used.

Smoke Nuisance.—The appended tabulated statement shows that action regarding the smoke nuisance was taken in 66 districts. The observations numbered 2,762, against 3,130 last year, 2,302 in 1906, and 2,490 in 1905. Legal proceedings were instituted in 41 instances, as compared with 47 in 1907, 38 in 1906, and 33 in 1905. Orders to abate were obtained in a few instances and fines inflicted in Eccles (B.), Heywood (B.), Kearsley, Middleton (B.), Radcliffe, and Stretford. Numerous observations were taken in Ashton-under-Lyne (B.) 258, Audenshaw 78, Chadderton 85, Church 50, Darwen (B.) 275, Droylsden 236, Failsworth 87, Heywood (B.) 74, Hurst 93, Leigh (B.) 93, Middleton (B.) 81, Padiham 124, Radcliffe 91, Stretford 159, Swinton and Pendlebury 100, Turton 79, Whitefield 120, and Limehurst (R.) 78. From the information obtainable it does not appear that sufficient attention is paid to the repression of this nuisance, and the length of time—ranging from 12 to 16 minutes per hour—allowed by some of the local authorities for the emission of black smoke tends rather to encourage than abate the nuisance.

DISTRICT.	No. of Smoke Observa- tions.	Time limit per hour— Minutes.	No. of Legal Pro- ceedings.	Result of Legal Pro- ceedings or Remarks.
Accrington (B.)	8	8	1	Order to abate ob- tained and defendant to pay costs.
Ashton-under-Lyne (B.) ..	258	4	..	
Atherton	7	15	..	
Audenshaw	78	..	..
Bacup (B.)	4	8	..	
Barrowford	14	..	..
Birkdale	7	..	..

DISTRICT. (Continued.)	No. of Smoke Observa- tions.	Time limit per hour— Minutes.	No. of Legal Pro- ceedings.	Result of Legal Pro- ceedings or Remarks.
Chadderton	85	Offenders summoned to appear before Sanitary Committee.
Chorley (B.).....	7	10	..	
Church	50	8	..	
Clayton-le-Moors	9	..	..
Clitheroe (B.)	Many	..	..
Colne (B.).....	40	Orders to abate ob- tained.
Darwen (B.).....	275	5 to 7 according to number of boilers	6	
Denton	19	..	..
Droylsden.....	236	..	..
Eccles (B.)	28	4	4	
Failsworth	87	..	1	One fined 10s. and costs, three to pay costs — "Very in- adequate penalties." Order to abate ob- tained and defen- dants to pay costs.
Farnworth	22	..	..
Fleetwood.....	22	3	..	
Gorton	10	8	..	
Great Crosby	Many	..	..
Great Harwood	27	10	..	Fine of 10s. and costs inflicted in each case.
Heaton Norris.....	16	10	..	
Heywood (B.)	74	10	2	
Horwich	16	15	..	
Hurst.....	93	8	..	
Huyton-with-Roby	18	7	..	Fines inflicted and orders to abate ob- tained.
Irlam	Several	16 Not more than 4 consecutive minutes	..	
Kearsley	22	7½	2	
Lancaster (B.).....	1	3	..	
Leigh (B.).....	93	12	..	
Levenshulme	11	6	..	3 exceeded limit.
Littleborough	44	8	..	
Little Crosby	12	..	..
Little Hulton	6	10	..	
Lytham.....	1	..	..
Middleton (B.).....	81	10	20	19 convictions ob- tained, fines and costs amounting to £22, 1 case dismissed.
Milnrow	12	8	..	
Morecambe (B.)	3	..	..
Nelson	42	10	1	
Norden	6	..	..
Oswaldtwistle	4	8	..	Summons withdrawn as smoke consuming apparatus fixed.
Padiham	124	10	0	

DISTRICT. (Continued.)	No. of Smoke Observa- tions.	Time limit per hour — Minutes.	No. of Legal Pro- ceedings.	Result of Legal Pro- ceedings or Remarks.
Preesall-with-Hackinsall ..	5	Abatement order ob- tained in each case with £5 5s. costs.
Prestwich	12	5	..	
Radcliffe	91	10	2	
Ramsbottom	9	12	..	
Rawtenstall (B.)	7	8	..	Fines and costs amounting to £7 4s. imposed.
Royton	25	3 boilers 8 minutes, 4 boilers 10 minutes, 1 & 2 boilers 6 minutes.	..	
St. Annes-on-the-Sea	8	10	..	
Stretford	159	4	2	
Swinton and Pendlebury ..	100	5	..	
Tottington	12	12	..	
Turton	79	12	..	
Tyldesley-with-Shakerley ..	14	8	..	
Wardle	2	8	..	
Waterloo-with-Seaforth ..	6	4	..	
Westhoughton	Casual	..	..
Whitefield	120	10	..	
Withnell	6	3	..	
Worsley	25	7	..	
Barton-upon-Irwell (R.) ..	8	6	..	
Burnley (R.)	12	..	..
Bury (R.)	12	..	..
Limehurst (R.)	78	6	..	
Total	2762	..	41	

Scavenging and Refuse Removal.—From the information contained in the district reports it appears that scavenging is carried out satisfactorily in 123 districts; in 2 districts, Rainford and Ulverston (R.), it is described as fair, and not satisfactory in the whole or part of 6 districts, namely, Leigh (B.), Little Hulton, Turton—that part scavenged by the owners of property, West Lancashire (R.)—except in Aughton, and in parts of Whiston (R.) and Wigan (R.). The work is performed by the Authority in 92 districts, by contract in 23 districts, partly by the Authority and partly by contract in 16 districts, and by the owners or occupiers of houses in 2 districts. According to the particulars available, changes have taken place in the following districts :—Clayton-le-Moors

and Clitheroe (B.), formerly scavenged by the Authorities, are now partly under contract, and Blackburn (R.) is partly scavenged by contract instead of by householders. In several districts 'tips' have been abolished, and care is taken to prevent the accumulation of heaps of refuse, especially in the vicinity of dwelling-houses.

Refuse destructors are provided at Accrington (B.), Ashton-under-Lyne (B.), Atherton, Chorley (B.), Colne (B.), Darwen (B.), Eccles (B.), Gorton, Heywood (B.), Lancaster (B.), Leigh (B.), Levenshulme, Lytham, Middleton (B.), Morecambe (B.), Nelson (B.), Padiham, Prescott (small furnace), Radcliffe, Rawtenstall (B.), Royton, St. Annes-on-the-Sea, and Stretford. A destructor is in course of erection at Haslingden (B.), and similar action is expected to take place at Audenshaw, Droylsden, Ormskirk, Prestwich, and Swinton and Pendlebury. The Medical Officer of Health of Birkdale again recommends the provision of a refuse destructor without delay.

House Drainage, Sewerage, and Sewage Disposal.—In the summaries appended will be found references to the method of dealing with the sewage of each district as well as to matters relating to sewerage and house drainage; much of the information respecting the sewage works being taken from the reports of the Chief Inspectors of the Mersey and Irwell and Ribble Joint Committees. Mr. Halliwell, in reporting to the latter Committee, for the year ended March 31st, 1909, states that "many of the sewage works continue to give satisfactory results. This is due in no slight degree to the interest and increased care shewn by the various Sewage Committees, Engineers, and Works Managers. There is no doubt now Local Authorities are aware that methods are available for treating sewage, and obtaining results which are not only chemically but physically satisfactory, that they realise their obligations, and are more prepared

to alter or enlarge their works where it is demonstrated that such alterations are necessary."

The Local Government Board have sanctioned loans for extension or alteration of sewage works of many districts. At Accrington (B.), sewage works have been enlarged by the acquisition of 4 acres of land; and extensions and improvements at the outfall works have been completed or are contemplated at Atherton, Barrowford, Clitheroe (B.), Failsworth, Haydock, Horwich, Nelson (B.), Prescott, Prestwich, Ramsbottom, Burnley (R.), &c. At Chadderton sanction has been obtained for extensions to the main sewage works, to cost nearly £21,000; at Chorley (B.), for enlarging and extending main sewer and for providing additional sludge press, at a total cost of £11,500. At Colne (B.), the Local Government Board have consented to a loan of £3,600 for additional bacteria beds, and the work has been practically completed. At Mossley (B.), a loan of £9,000 has been sanctioned for a new filtering area, and at Oswaldtwistle a scheme for three 60-foot sprinklers and filters for the treatment of top water in stand-by storm-water filters has been approved by the Local Government Board. Ince-in-Makerfield: the question of remodelling the outfall works and relaying the sewers in order to prepare for the abolition, within a reasonable time, of privy middens, and the substitution of the water-carriage system, is still under the consideration of the Council, but difficulties due to constant mining subsidences cause delay. Preesall-with-Hackinsall: the sewerage system is unsatisfactory, and cesspools and open ditches discharge on to the foreshore near large blocks of property. Dr. Robinson reports that as long as the district remains without a suitable and efficient sewerage system, an epidemic may break out at any time, "probably with disastrous results." Drain testing has been carried out in the following districts:—Bispham-with-Norbreck; Eccles (B.): number of drains uncovered for examination 105, drains tested by smoke

or water on 1,024 occasions; Great Crosby: drains tested with smoke numbered 455; Stretford: examinations of house drains resulted in 164 defects being found out of 472 drains tested (old property), and 478 defects out of 1,018 drains tested (new property), whilst of four hundred and fifty-nine sanitary fittings examined in new property, no less than 138, or 30 per cent., were not satisfactory; Turton: smoke test applied to 341 drains; Waterloo-with-Seaforth: the smoke test was applied 504 times to house and school drains, and flushing of drains has been extensively carried out, over three million gallons of water being used for this purpose; Levenshulme: smoke test applied on 218 occasions. Similar work is carried out at Haydock, Ulverston, Fylde (R.), &c. In many districts periodical sewer-flushing takes place with satisfactory results, and the ventilation of sewers receives a good deal of attention from Local Authorities.

Water Supply.—Each summary gives the position of the district as regards water supply, and it will be observed that throughout the County, great improvements have taken place in this direction. In parts of districts, and more especially in rural areas, the provision of a wholesome water supply is still occupying the attention of the Authorities.

Bacup (B.).—About one-half the houses in the Borough are supplied with Corporation water, the remainder depend upon private supplies, some of which are “suspicious,” and “many are known to be polluted by surface washings after the fields have been manured.” It is said the people who use this water know the risk and guard against it by filtering and boiling the water.

Grange-over-Sands.—Supply obtained from a reservoir situated in Newton-in-Cartmel, good in quality, and ample in quantity. The Council has decided to become the owners of the gathering grounds with a view to safeguarding the supply of water against any possibility of pollution.

Oswaltdtwistle.—Application has been made for sanction to borrow £4,663 for the purpose of constructing filters at Cobbs reservoir.

Turton.—The condition of the supply to the main part of the district in respect of purity was satisfactory, but the dangerous plumbo-solvent tendency specially mentioned last year still continues. Much attention has been given to this matter, which it is hoped will have a satisfactory result.

Burnley (R.).—The scheme for an increased supply to Briercliffe is practically completed, but the provision of a public supply for Higham unfortunately has made little progress, the conditions upon which the land may be had from which the water is derived not yet being fully settled.

Chorley (R.).—The western water scheme to supply the townships of Euxton, Charnock Richard, Welch Whittle, Heskin, Eccleston, Ulnes Walton, and Bretherton is now complete.

Clitheroe (R.).—Water supply “good,” with the exception of the villages of Chipping and Wiswell. The Medical Officer reports “there is some prospect that the water which formerly supplied the Camp may become available for the village of Chipping, and if this should prove to be the case it will go a great way towards solving the problem which has been so long and so repeatedly under the consideration of the Council.”

Garstang (R.).—Water supply obtained mostly from the Fylde Water Board. Some progress is being made in Hambleton and Stalmine with the schemes for supplying these districts with Fylde water, but “owing to the cost, objections and protests are made.” The water supply at Calder Vale is one of urgent and pressing importance, and negotiations are in progress with the Manchester Corporation for a supply from the Thirlmere main. As stated in previous reports, Pilling is much in want of good and wholesome water, but for years

efforts to this end have been ineffective. The townships of Myerscough and Bilsborrow would also benefit much by improved supplies.

Lancaster (R.).—The attempt to obtain a public supply for Silverdale has not been brought to a satisfactory termination. Ultimate success is hoped for, as the want of reliable water “has militated greatly to prevent the development of the village, which, if proper means are adopted, has every prospect of becoming a popular residential centre and health resort.” Dr. Parker suggests that this district should be united with Lindeth for sanitary purposes.

Lunesdale (R.).—The supply to certain portions of Leck and Cowan Bridge, is still inadequate, and an improvement would be effected by the enlargement or duplication of the reservoirs in connection with the Arkholme supply.

Shop Hours Act, 1904 —Under this Act the County Council is the “Local Authority” except as regards urban districts with a population at the last census of over twenty thousand, and has power to make “Closing Orders” and “fix the hours on the several days of the week at which, either throughout the area of the Local Authority or in any specified part thereof, all shops, or shops of any specified class are to be closed for serving customers.” The hour fixed for closing may be as early as 1 p.m. on one day in the week, but on the remaining days shall not be earlier than 7 p.m. For non-compliance with a Closing Order fines varying from one to twenty pounds may be inflicted. The Act does not apply to Sunday closing.

During the year two applications for Closing Orders—barbers or hairdressers—were received, and on enquiry it was ascertained that the requisite two-thirds majority of the shop-keepers concerned were in favour of the Orders being made, but as only a small number of shops were affected—14

and 10 respectively—the Public Health Committee did not feel justified in authorising the large expense which is necessarily incurred in the somewhat cumbrous procedure of making an Order under this Act, having in mind, at the same time, that the Home Secretary had given an undertaking that the Government would shortly bring in a Bill amending the Shops Acts.

In another district from which applications had been received in 1907, from five classes of tradesmen (112 shops), the procedure for bringing an Order into operation was carried out in the early part of the year, and this Order received the sanction of His Majesty's Secretary of State on May 26th.

When any Order made by the County Council has been confirmed by the Secretary of State, and comes into operation, the County Police, at the request of the Public Health Committee, kindly undertake to see that the provisions thereof are adhered to by the shopkeepers concerned.

No offences against the Orders in operation were reported by the County Police during the year under review.

As required by the Regulations, a Register of Shops affected by the various Orders is kept in the Public Health Department, showing the addresses, trades, and names of the occupiers.

The Bill previously referred to has now (1909) been introduced, and provides for the consolidation and revision of the Shops Regulation Acts, but it is not proposed to proceed further with the Bill this Session.

Midwives Act, 1902.—During the year, 68 women have had their names added to the County Register, and 137 have ceased to practise as midwives. Many retired because they only acted as monthly nurses, and some on account of

ill-health, old age, &c. These changes, together with removals to places outside the County area, deaths, &c., left on the County Register, on the 31st December, 1908, 949 midwives, whose qualifications were as follows :—

Obstetrical Society of London	65
Coombe Lying-in Hospital and Guinness's Dispensary	2
Rotunda Hospital, Dublin	1
Queen Charlotte's Lying-in Hospital	1
Liverpool Ladies' Charity and Lying-in Hospital	36
St. Mary's Hospitals, Manchester	65
Certificate (by Examination) of Central Midwives Board	54
In <i>bonâ-fide</i> practice, July, 1901	725
Total	949

Of the above number 871 gave notice, in compliance with Section 10 of the Act, that they were practising within the Administrative County, and 78 intimated that they had temporarily ceased to act as midwives.

On the 31st of January, in accordance with Section 8 (5) of the Act, the Central Midwives Board were supplied with a list of the names and addresses of all the women who, during the preceding year, had apprised the Local Supervising Authority (in writing) of their intention to practise in the County area.

A current copy of the Roll of Midwives (as required by Section 8 (5)) is kept in the County Health Department, "accessible at all reasonable times for public inspection."

The following statement shows the number of notifications received from midwives under the Rules of the Central Midwives Board, Section E (18), during the year 1908, and the three preceding years :—

	1908.	1907.	1906.	1905.
Records of sending for medical help	1543	1009	875	428
Still-births M. 380 F. 276 Not differentiated 1	657	516 242 1 559	482	238
Deaths of mother or child before the attendance of a medical practitioner Mother Child	81 76 84	51 57 57	121 66 78	61 14 20

The increase in the number of Records received is doubtless to a large extent due to the increased efficiency of inspection, and to the midwives realising more fully their obligations in this respect.

According to Section 8 (6) of the Act, the Central Midwives Board is kept acquainted with changes of name or address, and deaths of midwives, so that the necessary alterations may be made in the Official Roll. The following changes have been notified :—

	1908.	1907.	1906.	1905.
Changes of Address.....	255	166	172	153
„ „ Name.....	7	13	1	3
Deaths of Midwives.....	25	15	19	16

Enquiries have again been made as to the number of births attended by midwives, and it appears from the information collected by the Inspectors that 771 of the women on the County Register acted as midwives during the year 1908, and they attended 23,038 births, or an average of 29 per midwife. In 1907, 811 midwives were present at 21,583

births—an average of 26 each. In the year under report 92 midwives attended less than five cases, 93 five and under ten, 205 ten and under twenty-five, 172 twenty-five and under fifty, 74 fifty and under seventy-five, 33 seventy-five and under one hundred, and 36 one hundred and upwards. These totals do not include the cases attended by midwives residing and practising in County Boroughs, who also practice in the area of the Administrative County.

By the kindness of district Medical Officers of Health, cases of puerperal fever occurring in the practice of midwives are usually communicated to my office soon after they receive notification, and the midwives themselves often acquaint me as soon as the case is diagnosed. From these sources, coupled with the monthly returns of deaths and cases, 138 cases came to my knowledge, 58 of which had a fatal termination; the attack rate per 1,000 births being 3·07, and the case mortality 42·0 per cent. In 1907, there were 147 cases with 67 deaths, and in 1906 the cases numbered 116, and the deaths 52. Sixty-seven of the cases occurred among patients attended at child-birth solely by certified midwives, and 27 died, equal to a case mortality of 40·9 per cent; 24 cases with 12 deaths—mortality *50 per cent.—occurred where midwives were acting as nurses under the supervision of medical practitioners, and in the remaining 47 cases with 19 deaths—mortality 40·4 per cent.—no midwives were in attendance. Every case of puerperal fever where a midwife was concerned was carefully investigated, with the result that in 51 instances it was found that certain of the Rules of the Central Midwives Board had not been complied with, or that the midwife had been guilty of carelessness or negligence. The Midwives Act Committee considered the circumstances of each case, and found in two instances *prima facie* evidence of negligence, and the midwives concerned (E.A.D.

* These cases included a number where the midwife had called in medical assistance before the labour on account of some abnormality.

and S.A.F.) were reported to the Central Midwives Board, under Section 8 (2) of the Act. The Board subsequently removed their names from the Roll and cancelled their certificates. In 9 instances midwives were severely censured, 36 were cautioned, and in 4 cases no action was needed.

In addition to the above, 21 charges of negligence or malpractice on the part of midwives were considered by the Midwives Act Committee, the offences consisting of non-compliance with the Rules as to sending copy of record of sending for medical help to the Local Supervising Authority, failure to notify death, delay in advising medical assistance, unskilful treatment at child-birth, neglect in case of ophthalmia neonatorum, failure to keep register of cases, laying out dead, &c.; one midwife was censured by the Midwives Act Committee, 14 midwives were cautioned, and in 5 instances it was not considered necessary to take action. In another case a midwife (M.A) supplied a drug with intent to procure abortion, and for this offence was reported to the Central Midwives Board, and subsequently cautioned by that body. Thirty-seven other midwives were cautioned by the Midwives Act Committee for non-compliance with Section 10 of the Act.

It is satisfactory to note that several Medical Officers, in their annual reports, refer favourably to the operation of the Midwives Act: Dr. Chronnell, Hindley, remarks that "the midwives are gradually falling into line, they are doing their work better for the greater part, and when we remember that some of them can neither read nor write we must admit the improvement in their methods is little short of marvellous." Dr. Pickford, Little Lever, says "the Midwives Act continues to work well, the midwives having performed their duties in a very satisfactory manner, and no cases of puerperal fever have been reported." The Medical Officer of Morecambe (B.) (Dr. Watterson), says the Act has

been a boon to the less affluent inhabitants. The midwives are now careful in their duties and know the importance of sterilization, &c. Dr. Rhodes, Thornton, writes that the supervision of midwives by the County Authority has, in his opinion, "robbed the lying-in period of some of its dangers." Touching on the absence of puerperal fever, Dr. Robinson (Fleetwood) says "the certified midwives seem to understand their work fairly well, and are generally clean and attentive."

The Inspectors of Midwives (Miss Wright and Miss Ashton) report as follow :—

"The improvement previously commented upon in the method of practice, general cleanliness, and compliance with the Rules by the midwives under supervision, although slow, is steadily maintained. As regards some of the old midwives it is practically impossible to effect much improvement, except, perhaps, in the matter of cleanliness.

"Greater readiness in conforming to the Rules is shown by the majority of midwives; registers and case books are much better kept than formerly, and the Rule requiring copies of records to be sent to the Local Supervising Authority is kept by the majority of midwives, but it is sometimes difficult in the case of the illiterate.

"Of the more valuable results obtained the following may be mentioned—antiseptic methods more general, cases of abortion attended by midwives without a doctor now seldom come to the knowledge of the Local Supervising Authority, medical help called in more frequently in case of ruptured perinæum, realization of the importance of regularly taking the temperature, greater attention given to the babies' eyes, laying out the dead by midwives practically stopped, &c.

"Many of the midwives are looking forward to the time when uncertified women will not be allowed to habitually

attend women in child-birth, otherwise than under the direction of medical practitioners; at present they feel at considerable disadvantage in having to compete with the uncertified women who are not compelled to observe any rules, and are not under any control or supervision."

Table C appended gives particulars obtained by the Inspectors as to the equipment and efficiency of the County Midwives.

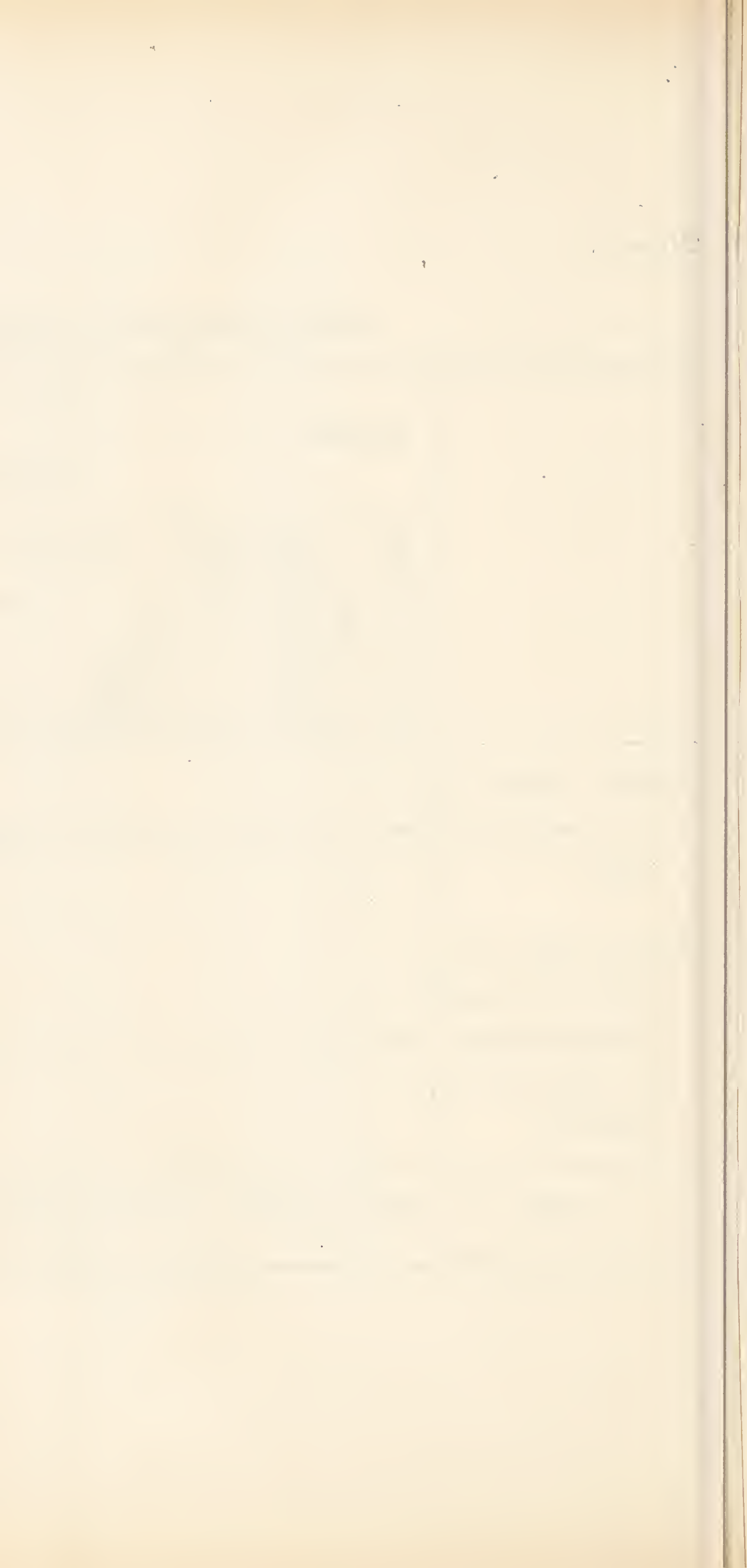
In December, 1908, the Lord President of the Council appointed a Departmental Committee to consider the working of the Midwives Act, 1902, "in particular with reference to the supply of midwives, and the cost of training, the remuneration of medical men summoned on the advice of midwives under the Rules in pursuance of the Act, and the delegation of their powers by County Councils under the Act." These considerations are of great importance, and the result of their enquiry will be looked forward to with interest.

Butter and Margarine Act, 1907.—Some of the provisions of the Act are intended, by means of regulation and inspection of the re-working of butter, to prevent its adulteration with milk or water or with fats other than butter fat. To give effect to these provisions, local authorities are advised by a circular letter from the Board of Agriculture and Fisheries to take steps to ensure that, after 1st January, 1908, no premises in their districts shall be used for the blending or re-working of butter, unless the premises have been registered with them in accordance with Section 1 of the Act. The manufacture and importation of margarine containing more than 16 per cent. of water is prohibited, and it is now illegal for any person to manufacture, sell, expose, or offer for sale, or have in his possession for the purpose of sale any mixture of butter with milk or cream containing more than 24 per cent. of water. Attention is drawn to the new definition of

TABLE C.

PARTICULARS AS TO EQUIPMENT AND EFFICIENCY OF MIDWIVES AT THE END OF 1908.

	MIDWIVES.			REQUIREMENTS.																	CONDITION AS TO CLEANLINESS.						EDUCATION.				ABILITY TO					
				Number of Midwives provided with :—																																
	Total No. on Register.	No. Practising.	No. not practising or without cases in 1908.	Washing Dresses and Aprons.		Bag of Appliances.					Forms.			Case Books.						Person.			Home.			Read Thermo-meter.		Take Pulse.		Pass Catheter.						
						Fully equipped.	Partially equipped.	Nil.	How kept.			Yes.	Medical help only.	No.	Yes.	No.	How kept.																			
Yes.	No.	Fully equipped.	Partially equipped.	Nil.	Well.	Moderate.	Bad.	Yes.	Medical help only.	No.	Yes.						No.	Well.	Moderate.	Bad.	Not at all.	Clean.	Fair.	Dirty.	Clean.	Fair.	Dirty.	Good.	Fair.	Poor.	Illiterate.	Yes.	No.	Yes.	No.	Yes.	No.
Midwives residing in the Administrative County	839	705	134	705	...	574	128	3	566	125	11	587	115	3	703	2	589	100	13	1	569	125	11	617	71	17	308	64	94	239	602	103	362	343	245	460
Midwives residing in adjoining Counties and in County Boroughs, but practising in County Area	89	66	23	66	...	61	5	...	54	10	2	45	20	1	66	...	54	12	...	...	57	7	2	57	7	2	45	3	8	10	59	7	44	22	44	22
Total	928	771	157	771	...	635	133	3	620	135	13	632	135	4	769	2	643	112	13	1	626	132	13	674	78	19	353	67	102	249	661	110	406	365	289	482



margarine in Section 13, which covers “any article of food whether mixed with butter or not which resembles butter and is not milk-blended butter.”

Sale of Food and Drugs Acts.—The following is extracted from the Annual Report of Dr. Campbell Brown, the Public Analyst for the Administrative County, on the proceedings taken under the Sale of Food and Drugs and Margarine Acts :—

“During the year, 3,706 samples have been analysed, including 3,440 by County Officers, and 266 by Inspectors for Local Authorities and private purchasers. Of these, 190 were found to be offences.

“They are classified as follows :—

1475 samples of Milk and Cream, of which 121 were offences.

822	„	Butter	„	12	„
39	„	Cheese	„	0	„
84	„	Margarine ..	„	7	„
281	„	Lard	„	9	„
7	„	Bread and Flour	„	0	„
197	„	Tea, Coffee, and Cocoa ..	„	0	„
82	„	Sugar, Con- fectionery, Jam, and Marmalade	„	12	„
180	„	Pepper	„	1	was an offence.
7	„	Wine, Beer, and Stout ..	„	0	were offences.
330	„	Spirits	„	16	„
19	„	Drugs	„	1	was an offence.
183	„	Other Articles	„	11	were offences.
<hr/> 3706 Samples analysed			„	<hr/> 190	„

“The proportion of offences to total samples is 5·13 per cent, as compared with 4·2 per cent. in 1907.

“A tabular statement of the prosecutions in the respective divisions is appended. (Table D.)

“Out of the 3,440 samples purchased by the County Officers 181 were found to be offences. The total number of prosecutions by the police was 98, with 81 convictions.

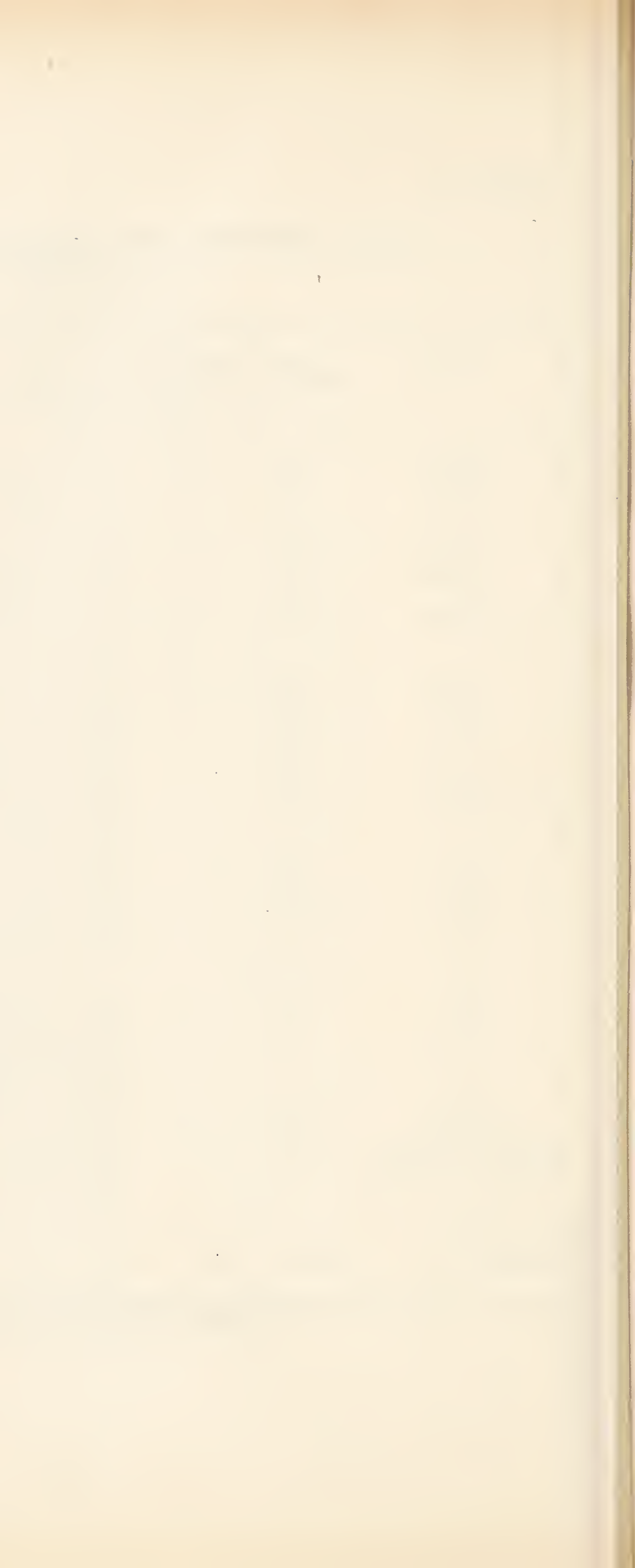
“The penalties vary from 2s. 6d. to £20. The average penalty was £1 11s. 2½d.”

TABLE D.

TABLE SHOWING THE ACTION TAKEN IN THE ADMINISTRATIVE COUNTY UNDER THE
SALE OF FOOD AND DRUGS ACTS DURING 1908.

Division.	Total Samples.	No. of Offences	No. of Prosecutions.	No. of Convictions.	RESULT OF PROSECUTIONS.	Penalties.	Costs.
N.L.D.	85	...	5	4	Two fined 20s., two 10s. and costs, one withdrawn on payment of costs	£ s. d. 3 0 0	£ s. d. 7 15 3
S.L.D.	71	...	1	0	Dismissed... ..	...	...
G.D.	71	...	2	2	One fined £2, one fined 10s. and costs	2 10 0	2 3 8
Km. D.	114	...	4	3	Two fined 20s., one fined 5s. and costs, one dismissed	2 5 0	5 16 9
L.B.D.	136	...	2	0	Two dismissed ... ..	...	...
H.B.D.	200	...	7	4	One fined 20s., three 10s. and costs, one (Chlorodyne Lozenges) dismissed on the ground that the article was a proprietary food containing Chloroform, and two other cases were dismissed ...	2 10 0	2 13 0
Rs. D.	110	...	4	4	Three fined 20s., one fined 10s. and costs	3 10 0	9 1 6
Ac. D.	109	...	2	1	One fined £2 and costs, one dismissed	2 0 0	2 18 3
L.D.	169	...	2	2	One fined 10s. and costs, one costs only	0 10 0	2 10 0
Bn. D.	193	...	1	1	Fined £20 and costs (Defendant absconded)	20 0 0	4 8 1
By. D.	175	..	7	3	One fined 10s., two fined 5s. and costs, one dismissed, three (Chlorodyne Lozenges) withdrawn	1 0 0	2 8 7
R.D.	213	...	10	9	One fined £2, one 10s. 6d., seven 5s. and costs, one dismissed on warranty	4 5 6	27 1 5
A.D.	151	...	1	1	Fined 2s. 6d. and costs... ..	0 2 6	1 3 0
M.D.	394	...	7	7	One fined £5, one £2, one 20s., one 5s. and costs, two 2s. 6d., one costs only	8 10 0	3 0 3
S.D.	100	...	12	12	Three fined £5, one £2, two £1, one 10s., three 5s. and costs, two costs only	20 5 0	16 1 8½
O.D.	109	...	4	4	Four fined 20s. and costs	4 0 0	6 4 10
P.D.	90	...	5	5	Five fined £4 and costs... ..	20 0 0	2 1 5
Ws. D.	97	..	12	11	One fined £10, two £5, two £2, three 20s. and costs, three costs only, one withdrawn	27 0 0	12 6 0
W.D.	203	...	2	2	Two fined 10s. and costs	1 0 0	5 15 10
Wgn. D.	231	...	1	1	Fined 10s. and costs (Refusal to sell)... ..	0 10 0	0 10 0
Inspector Parkinson..	418	...	7	5	One fined £2, two 10s., one 5s. and costs, one costs only, two dismissed	3 5 0	4 0 0
Prosecuting Solicitor.	1	...	0	0	Informally purchased ... ..	...	...
Total for County Officers	*3440	181	98	81		126 3 0	117 19 6½

* In addition, 266 were sent by Inspectors of District Councils and private purchasers; total, 3,706.



SUMMARY OF THE REPORTS

RECEIVED FROM

MEDICAL OFFICERS OF HEALTH

OF

URBAN AND RURAL DISTRICT COUNCILS

FOR THE YEAR 1908.

NOTE :—

The Local Government Board in their Statistical Tables IV. and V. have, as regards the classification of deaths under the heading of “Diarrhœa,” reverted to the method adopted by them *prior* to 1906. For the years 1906 and 1907 the Board’s Tables required that all deaths of children *under one year of age* registered as due to Enteritis, Muco-enteritis, Gastro-enteritis, Gastritis, and Gastro-intestinal Catarrh should be classified as “Diarrhœa,” and consequently all such deaths were included in the Epidemic Death-rates. The District Epidemic Death-rates for the year 1907 and the 10 years 1898-1907 in the following summaries have been re-calculated, and are therefore comparable with the rates for the year under report.

URBAN DISTRICTS.

Abram.—(Area in acres, 1,984; Estimated Population, 7,180).—*Medical Officer of Health*, ANDREW O. BENTHAM, M.R.C.S.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	31·6	12·6	1·11	0·41	2·64	105
1907	26·8	12·9	2·23	0·97	3·21	145
Mean of 10 years						
1898-1907	38·3	20·2	3·94	0·83	4·42	196
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+4·8	—0·3	—1·12	—0·56	—0·57	—40
<i>Ten Years' Average</i>	—6·7	—7·6	—2·83	—0·42	—1·78	—91

The statistics presented by Dr. Bentham compare favourably with the preceding year; the birth-rate shows a considerable increase, whilst all the mortality averages are reduced, the epidemic death-rate and the infantile mortality each being the lowest recorded for the district. It may be mentioned that the 76 deaths caused by the lamentable calamity at the Maypole Colliery on August 16th are not included in this report, no official information having been received of them from the registrar owing to the fact that the Coroner's inquiry was not concluded at the end of the year.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 21, scarlet fever 18, enteric fever 7 (4 deaths), erysipelas 10. Deaths from non-notifiable diseases: measles 1, diarrhoea 3. The number of notifications is considerably lower than in previous years, and Dr. Bentham

says this “proves undisputably the great value of the sanitary work done by the Council, and the usefulness of the isolation hospital.” Abram Brow Ward produced the greatest number of cases of diphtheria and scarlet fever, whilst whooping cough showed itself more particularly in Bickershaw Ward.

Hospital Accommodation.—The hospital for ordinary infectious diseases at Park Lane contains 8 beds, and for small-pox an iron building—4 beds—is available. Cases treated : scarlet fever 13, enteric fever 6 (3 deaths). Abram is combined under a County Council Order with the adjoining districts for the purpose of providing a small-pox hospital.

Disinfection.—The steam appliances (Manlove’s) at the hospital were used for the disinfection of 369 articles, and 38 houses and one school were fumigated with sulphur.

Water Supply.—Obtained from the Liverpool Corporation. The service reservoir at Stubshaw Cross is kept under constant supervision, and a case of tipping rubbish in close proximity was promptly dealt with.

Sewerage, Scavenging, &c.—The sewage works, consisting of septic tanks, triple contact beds, and land, continue to give satisfactory effluents. Scavenging is efficiently carried out, two-thirds by the Authority, and one-third by contract.

Sanitary Inspection.—The sanitary condition of schools is said to be satisfactory. Bakehouses, dairies and cowsheds, and slaughter-houses, on the whole, are free from complaint. New bye-laws relating to the latter places are in course of adoption. Thirty-two visits to factories and workshops revealed 3 defects, and of 45 canal boats examined 8 did not comply with the requirements. Only 19 privy middens were converted to the water-carriage system, 1,137 still

remaining. The Inspector (Mr. Roby) served 74 notices and secured the abatement of 390 nuisances.

Notable sanitary improvements during 1908. Paving and flagging of yards ; improvement to property in Talbot Road ; extra ventilating shafts to sewers ; laying surface water sewer.

Chief sanitary requirements. The raising of sunken sewers ; paving of private streets and common yards.

Accrington (Borough).—(Area in acres, 3,427 ; Estimated Population, 46,000).—*Medical Officer of Health*, ARTHUR GREENHALGH, M.R.C.S., D.P.H. ; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·0	14·3	1·91	0·78	2·45	137
1907	22·5	14·5	0·92	0·83	2·63	107
Mean of 10 years						
1898-1907	22·9	14·6	1·56	0·95	2·82	146
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—0·5	—0·2	+0·99	—0·05	—0·18	+30
<i>Ten Years' Average</i>	—0·9	—0·3	+0·35	—0·17	—0·37	—9

The birth and death rates are slightly below the averages of 1907, but the epidemic death-rate and the infantile mortality are higher than for some years past. With a view to reducing the latter mortality the Medical Officer of Health again advocates the appointment of a health visitor.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 48 (9 deaths), scarlet fever 232 (1 death), enteric fever 22 (4 deaths), erysipelas 23 (1 death), puerperal

fever 6 (4 deaths). Deaths from non-notifiable diseases : measles 31, whooping cough 19, diarrhœa 24. Scarlet fever caused nearly three times as many cases as in 1907 but there was a very light mortality, only 1 death being recorded. Hospital isolation of this disease is not practised ; infected houses are visited and printed instructions given, and children from these houses are excluded from school. The Corporation provide free of cost anti-diphtheritic serum, and it is noted that the fatal cases of diphtheria are generally those in which serum treatment has been delayed. Measles, whooping cough, and summer diarrhœa were each unusually prevalent. Speaking of the first two mentioned diseases, which caused 50 deaths—44 being children under the age of 3 years—Dr. Greenhalgh says a lamentable amount of ignorance as to the seriousness of these complaints still exists, and a great many parents still hold the erroneous impression that all children must suffer from them, and the sooner they are got over the better. School closure was resorted to during the outbreak of measles. The voluntary notification of phthisis is not satisfactorily carried out.

Hospital Accommodation.—For small-pox a hospital with 24 beds exists, but for other diseases there is no provision.

Disinfection.—Steam apparatus (Goddard, &c.), is provided. The whole of the schools, 325 rooms in dwelling-houses, 2,102 articles of clothing, &c., and 73 library books, were disinfected either with sulphur or formalin.

Water Supply obtained from the reservoirs of the Accrington and District Water Board at Dean Clough, Mitchell's, and Burnley Road. During the year an additional supply has been secured at Altham.

Sewerage, Scavenging, &c.—The plant at the joint outfall works at Coppy Clough consists of open septic tanks, sprinkler filters, and sedimentation tanks. Sanction has been obtained to acquire 4 acres of land adjoining the existing works.

Scavenging is carried out satisfactorily under the supervision of the Corporation officials, the refuse being taken to the destructor. Special attention is drawn to the practice of allowing large heaps of horse manure—a breeding place for flies—to lie for a long period in the near vicinity of dwelling-houses.

Sanitary Inspection.—Special inspection of the schools has been fruitful in securing greatly improved methods of cleansing. Bakehouses and slaughterhouses are described as “good” and lodging-houses “fair.” A public abattoir is provided. A large amount of unsound food was destroyed, including 3,174 lbs. beef, mutton, and pork, 680 lbs. fish, 1,600 eggs, &c. “A marked improvement” is noted in the condition of the dairy farms. Factories and workshops received 254 visits of inspection. The Inspector (Mr. Diggle) reports on 642 nuisances abated after the service of 349 notices. Smoke observations numbered 8.

Adlington.—(Area in acres, 1,062; Estimated Population, 4,899).—*Medical Officer of Health*, F. J. A. MAYES, M.R.C.S.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·5	11·6	0·40	0·40	2·65	76
1907	25·9	13·2	1·45	0·41	1·86	136
Mean of 10 years						
1898-1907	28·0	13·6	1·72	0·44	2·50	139
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·6	—1·6	—1·05	—0·01	+0·79	—60
<i>Ten Years' Average</i>	—1·5	—2·0	—1·32	—0·04	+0·15	—63

The improvement in the mortality averages commented

upon last year is maintained, with the exception of the respiratory rate. The infant mortality for the year under review is comparatively low, but Dr. Mayes writes, the waste of life during infancy is still too excessive, and this is brought about by injudicious feeding and neglect of infants, and also by the exigencies of industrial life requiring female labour.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 25 (2 deaths), scarlet fever 4, enteric fever 1, erysipelas 7. Deaths from non-notifiable diseases: nil. “The measures taken to prevent the spread of disease were either isolation at home, which is always more or less of a failure, or removal to the fever hospital, and in the case of diphtheria the use of anti-toxin.”

Hospital Accommodation.—An isolation hospital is provided at Heath Charnock jointly with Chorley, &c., and the Hospital Board have an arrangement with the Blackburn Corporation for the isolation of cases of small-pox. Cases treated: diphtheria 13 (1 death), scarlet fever 4, enteric fever 1.

Disinfection.—No proper appliances.

Water Supply obtained from Blackrod, described as “good.”

Sewerage Scavenging, &c.—Sewage treatment consists of precipitation, filtration, and irrigation. Storm water beds are provided. Scavenging, in the hands of the Authority, is efficiently performed, “but the crude method of emptying middens into the highway at any hour of the day is still religiously observed.”

Sanitary Inspection.—A certain amount of overcrowding exists and a number of ancient houses with low ceilings and deficient in ventilation still remain. Schools, bakehouses, slaughterhouses and dairies and cowsheds are all said to be

in “good” condition. Only 1 privy midden was abolished during the year. The Inspector (Mr. Moss) served 52 notices, and all the nuisances therein referred to were abated.

Chief sanitary requirements.	Conversion of privy middens to water-carriage system; paving of backyards; increased house accommodation.
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Allerton—(Area in acres, 1,589; Estimated Population, 1,221).—*Medical Officer of Health*, C. STUART PETHICK, M.A., M.B.; *Salary*, £20.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	15·5	6·5	1·63	0·81	1·63	105
1907	26·3	9·9	nil.	nil.	1·81	103
Mean of 10 years						
1898-1907	24·6	8·3	0·64	nil.	1·29	71
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—10·8	—3·4	+1·63	+0·81	—0·18	+ 2
<i>Ten Years' Average</i>	—9·1	—1·8	+0·99	+0·81	+0·34	+34

A considerable reduction in the birth-rate took place as compared with last year, and the death-rate is also lower, but the epidemic death-rate and the infantile mortality are above the average. A death was registered from phthisis, the first since 1897.

Infectious Diseases.—Cases notified: diphtheria 1, scarlet fever 5. Deaths from non-notifiable diseases: whooping cough 1, diarrhoea 1. One case of scarlet fever was discovered in the peeling stage by the school attendance officer, and the infection in the diphtheria case was contracted outside the district.

Hospital Accommodation.—A retaining fee is paid to the Whiston sanatorium, at which institution two beds (one for small-pox) are reserved for the use of this district. Cases treated : scarlet fever 3.

Disinfection.—Fraser's dry heat apparatus, belonging to the Much Woolton Council, is available for the disinfection of clothing, bedding, &c. Six houses were fumigated with sulphur.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is discharged into the Liverpool Corporation mains at Garston. The Authority undertake scavenging.

Sanitary Inspection.—House inspections numbered 220, and 3 notices were required to remove insanitary conditions. The schools, bakehouse, dairies, and cowsheds are all said to be satisfactory. The latter, however, are not subject to regulations.

Ashton-in-Makerfield.—(Area in acres, 6,251 ; Estimated Population, 21,601).—*Medical Officer of Health*, NATHAN HANNAH, L.R.C.P.E. ; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	33·6	15·1	1·89	0·69	2·26	143
1907	33·4	15·3	2·16	0·98	3·10	171
Mean of 10 years						
1898-1907	38·3	17·1	3·10	0·75	3·12	173
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+0·2	—0·7	—0·27	—0·29	—0·84	—28
<i>Ten Years' Average</i>	—4·7	—2·0	—1·21	—0·06	—0·86	—30

The mortality statistics, presented by Dr. Hannah,

compare favourably with those of the previous year, and the mean of the 10 years, 1898-1907. The epidemic death-rate and the infantile mortality are each, with one exception, the lowest recorded during the last decade. The Notification of Births Act, 1907, has been operative for a year, and the results have "justified its adoption." The health visitor's report contains interesting statistics.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 147 (14 deaths), scarlet fever 52 (1 death), enteric fever 36 (4 deaths), erysipelas 34 (2 deaths), puerperal fever 3 (1 death). Deaths from non-notifiable diseases: measles 2, whooping cough 1, diarrhœa 19. Diphtheria again had an increased prevalence, May and November being the months most in evidence as regards incidence. Free use of serum was resorted to, and apparently resulted in the saving of a large percentage of the worst cases. Towards the end of the year several enteric fever cases occurred, due, very probably, to an ambulatory mild case, but unfortunately the suspect left the district before actual proof was forthcoming. (In May, 1909, Dr. Hannah issued a special report, of much interest, on the occurrence of scarlet fever and diphtheria in his district since the year 1874.) Whooping cough and influenza were troublesome in the first quarter, and a few cases of chicken-pox occurred in May. Arrangements have been made for the voluntary notification of phthisis, but only 5 cases were reported.

Hospital Accommodation.—The hospital at Long Lane is provided with 31 beds, and a small-pox hospital, at Edge Green, has 8 beds. Cases treated: diphtheria 104 (7 deaths), scarlet fever 26, enteric fever 29 (4 deaths). This district is one of the constituent Authorities under the Wigan and District Joint Small-pox Hospital Order.

Disinfection.—The steam apparatus (Goddard, &c.),

at the hospital, was used for the disinfection of 1,081 articles of bedding, clothing, &c., and 231 houses were fumigated.

Water Supply.—Good, obtained partly from the Liverpool Corporation and partly from the Council's own reservoir.

Sewerage, Scavenging, &c.—Sewage is treated at 6 outfall works, viz. : Garswood (Victoria Road), Downall Green (Lower Bank), and Edge Green (No. 1), on the bacterial system ; Brynn Gates, by bacteria beds and broad irrigation ; and at Pewfall and Edge Green (No. 2), by broad irrigation. Much anxiety is caused by the dislocation and sagging of the sewer pipes through sinking of land over colliery workings. Scavenging, carried out by the Authority, is described as “ very fair.” A number of streets are in “ ill condition.”

Sanitary Inspection.—Seven houses, unfit for human habitation, were demolished. Schools are reported in good condition, the closet accommodation at two having recently been improved. Bakehouses and slaughter-houses, regularly inspected, are well kept, and dairies and cowsheds, with few exceptions, are clean and in good order. Factories and workshops received 119 visits of inspection, few defects being noted. Fourteen privy middens underwent conversion to pails ; about 300 still remain, and there are 3,357 pail closets in the district, and 160 water closets. The Inspector (Mr. Gamble), served 231 notices, and secured the abatement of 489 nuisances, 2 after legal proceedings had been instituted. Again no smoke observations were taken.

Notable sanitary improve- ments.	Demolition of old cottages ; for- mation of streets.
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Chief sanitary require- ments.	Further attention to streets and approaches ; a public abattoir ; and a refuse destructor.
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Ashton-under-Lyne (Borough).—(Area in acres, 1,346 ; Estimated Population, 45,798).—*Medical Officer of Health*, JOHN W. TALENT, M.D., D.P.H. ; *Salary*, £300.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·7	19·1	1·74	1·48	3·47	183
1907	26·7	18·0	2·04	1·03	4·06	156
Mean of 10 years						
1898-1907	26·5	18·9	1·91	1·45	3·73	178

Increase or Decrease

on—

<i>Previous Year</i> . . . . .	...	+1·1	—0·30	+0·45	—0·59	+27
<i>Ten Years' Average</i>	+0·2	+0·2	—0·17	+0·03	—0·26	+5

The birth-rate, identical with last year's rate, is fractionally above the average of the preceding decade, and the death-rate shows an increase. As in the two preceding years Portland Ward had the highest birth and death rates, and St. Michael's Ward the lowest. The epidemic death-rate, with one exception, is the lowest recorded during the past ten years, but the infantile mortality is above the average. The high rate of mortality amongst infants is the subject of a lengthy report by Dr. Talent, and in conclusion he recommends: (a) the earlier notification of births; (b) that the work of the two health visitors be supplemented by personal visits by ladies of the Health Society; (c) the careful and frequent removal of all manure and decomposing matter to prevent the breeding of flies, &c., and (d) that special instructions as to the care and feeding of infants be given to the midwives of the Borough. (It may here be mentioned that the County Council, some time ago, issued to all the *certified* midwives pamphlets on this subject for distribution, and further copies can be had on application). To carry out

recommendation (a) above mentioned, the Council, in November, adopted the Notification of Births Act, 1907.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 14 (5 deaths), scarlet fever 224 (4 deaths), enteric fever 30 (4 deaths), erysipelas 19, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: measles 3, whooping cough 20, diarrhoea 44. Scarlet fever prevailed in epidemic form throughout the year, but has now (March, 1909), subsided to a normal level. Referring to diphtheria, the Medical Officer of Health reports, “we have no system of making free bacteriological examination, nor of allowing anti-toxin free to poor people, neither had we any accommodation in the hospital, since it was occupied all the year by cases of scarlet fever.” The latter fact also prevented isolation of several cases of enteric fever in which hospital treatment would have been most suitable. Measles caused little trouble, no doubt because of the serious epidemic last year (30 deaths), which attacked all who were then susceptible.

Hospital Accommodation.—The Borough hospital contains 16 beds, and the joint small-pox hospital, at Hartshead, has 12 beds. Cases treated: scarlet fever 44. One case of enteric fever was removed to Oldham. In December a Local Government Board Inquiry was held respecting an application of the Joint Hospital Board to erect, on land at Hartshead, a hospital for the treatment of other diseases than small-pox.

Disinfection.—A “Thresh” steam disinfector is provided at one of the hospitals and “Mason’s” apparatus at the other. Provision of apparatus at the town’s yard is suggested. Houses fumigated with sulphur or formalin numbered 307.

Water Supply.—Obtained from the joint water works.

Sewerage, Scavenging, &c.—The sewage works consist of precipitation tanks and double contact beds. Scavenging is satisfactorily carried out by the Authority; over 9,000 tons of refuse were burnt in the destructor.

Sanitary Inspection.—Several old and dilapidated cottages were demolished, and a few “condemned” houses were made habitable. Bakehouses and slaughter-houses, visited from time to time, are fairly satisfactory. Six underground bakehouses are in existence, but one will shortly be closed as it is unfit for its purpose. The standard of cleanliness at the lodging-houses, is much better than it was a year ago; two lodging-houses were closed. The 6 cowsheds in the Borough leave much to be desired in the matter of structure, ventilation, and lighting. At factories and workshops 119 defects were noted during the 167 visits of inspection. Privy middens converted to the water-carriage system numbered 182, and only 58 now remain. The Inspector (Mr. Morris), gives details of the sanitary work accomplished, including the abatement of 1,794 nuisances, service of 656 notices, 258 smoke observations, &c.

Notable sanitary improvements. Conversion of middens to w.c.’s; insanitary property closed.

Chief sanitary requirements. Further hospital accommodation for diseases other than small-pox.

Aspull.—(Area in acres, 1,906; Census Population, 8,388).—

Medical Officer of Health, L. COOKE, L.R.C.P.; Salary, £35.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	35.5	17.5	2.50	0.47	5.48	137
1907	28.7	16.3	2.50	0.23	4.64	161
Mean of 10 years						
1898-1907	34.9	18.7	3.25	0.64	4.38	166

Increase or Decrease on—

<i>Previous Year</i>	+6.8	+1.2	...	+0.24	+0.84	—24
<i>Ten Years’ Average.</i>	+0.6	—1.2	—0.75	—0.17	+1.10	—29

The birth-rate shows a considerable increase as compared

with last year, and a fractional rise on the ten years' average. The infantile mortality, with one exception, is the lowest recorded during the decade.

Infectious Diseases. — Cases notified : diphtheria 4 (1 death), scarlet fever 22, enteric fever 9 (2 deaths), erysipelas 14 (1 death), puerperal fever 2. Deaths from non-notifiable diseases : whooping cough 13, diarrhoea 5. In January and February the district was visited by an extensive epidemic of influenza of a severe type, and this was followed by an outbreak of whooping cough which continued from March to June.

Hospital Accommodation.—By arrangement, infectious cases can be sent to the Wigan sanatorium. Cases treated : enteric fever 4 (2 deaths). This district is combined, under an Order of the County Council, with neighbouring Authorities, for the provision of a joint small-pox hospital.

Disinfection.—The apparatus at the Wigan sanatorium is available. Houses fumigated numbered 23.

Water Supply, obtained from the Bolton Corporation, is now described as “good.” For several years complaints have been made, but the pipes have been bored and cleansed with most satisfactory results. A large accumulation was found in the mains, amounting in the aggregate to several tons. Frequent flushing is recommended.

Sewerage, Scavenging, &c.—Sewage is dealt with by the Wigan Corporation. Scavenging—as performed by contract—appears to be satisfactory. The roads and streets are undergoing steady improvement.

Sanitary Inspection. — The dairies and cowsheds are generally satisfactory, but at some, alterations are desirable. Schools, bakehouses, and slaughter-houses are in “good”

condition. Thirty-eight inspections of factories and workshops took place. Again no conversions of privy middens took place, although there are 943 in the district. The Inspector (Mr. Gibson), served 84 notices for the abatement of nuisances.

Atherton.—(Area in acres, 2,265; Estimated Population, 18,900).—*Medical Officer of Health*, JAMES MARSH, M.B.; *Salary*, £80

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	28·6	13·1	3·06	1·05	1·48	131
1907	28·0	14·3	2·68	1·18	2·20	134
Mean of 10 years						
1898-1907	33·2	16·9	3·59	1·02	3·12	172
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+0·6	—1·2	+0·38	—0·13	—0·72	— 3
<i>Ten Years' Average</i>	—4·6	—3·8	—0·53	+0·03	—1·64	—41

A fractional rise in the birth-rate is accompanied by a decrease in the death-rate, the latter being the lowest recorded for the district. The epidemic death-rate, however, continues high, whooping cough again being the chief factor. The Notification of Births Act has been adopted by the Council.

Infectious Diseases. — Cases notified: small-pox 1, diphtheria and membranous croup 20 (4 deaths), scarlet fever 43 (2 deaths), enteric fever 44 (7 deaths), erysipelas 20, puerperal fever 1. Deaths from non-notifiable diseases: measles 3, whooping cough 23, diarrhœa 19. The small-pox case occurred in May, the infection probably being contracted in London. Dr. Marsh again urges his Council to include

whooping cough in the list of compulsory notifiable diseases. He says, notwithstanding the very high mortality this year and last, it is amazing with what lightheartedness this disease is treated by the general public.

Hospital Accommodation provided at the joint sanatorium at Astley. Cases treated: small-pox 1, scarlet fever 24 (1 death), enteric fever 18 (2 deaths).

Disinfection.—Mason's apparatus erected at the gas works. Articles of bedding and clothing disinfected numbered 438, and 154 rooms in dwelling-houses were fumigated; in addition 78 schoolrooms were sprayed.

Water Supply obtained from the Corporations of Manchester and Bolton.

Sewerage, Scavenging, &c.—Sewage is treated at the Leigh and Atherton joint outfall works by precipitation tanks, streaming filters, and land. Extensions at the outfall works are contemplated. The Authority efficiently carry out scavenging. The refuse destructor consumed over 3,000 tons of refuse.

Sanitary Inspection.—Sixteen houses were condemned, 6 closed, and 5 made habitable. The schools are in good sanitary condition, and bakehouses and slaughter-houses give satisfaction. Dairies and cowsheds are "fair." Factories and workshops received 105 visits. Seventy-eight privy middens were abolished, and 143 water closets provided in lieu thereof. The Inspector (Mr. Jepson), secured the abatement of 609 nuisances, served 92 notices, took 7 smoke observations, &c.

Chief sanitary require-
ment.

Additional house accommoda-
tion.

Audenshaw.—(Area in acres, 1,241 ; Estimated Population, 7,749).—*Medical Officer of Health*, F W ALLKIN, M B ; *Salary*, £40 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24·3	14·5	1·29	1·29	2·71	185
1907	24·2	14·0	1·82	0·65	2·99	139
Mean of 10 years						
1898-1907	25·1	14·7	1·68	0·88	2·78	138
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+0·1	+0·5	—0·53	+0·64	—0·28	+46
<i>Ten Years' Average.</i>	—0·8	—0·2	—0·39	+0·41	—0·07	+47

The birth and death rates vary but fractionally from those of the preceding year, but there was a considerable increase in the infantile mortality, this average being the highest recorded during the past ten years. Improper feeding, exposure to cold during the early months of life, and general ignorance on the part of mothers as to the ordinary management of children are said to be the cause of much of this mortality.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 8 (1 death), scarlet fever 47 (4 deaths), enteric fever 5 (2 deaths), erysipelas 2. Deaths from non-notifiable diseases : whooping cough 1, diarrhoea 2. Referring to scarlet fever, Dr. Allkin, states, “ it has frequently been a matter of regret that such a large number of these cases keep occurring, and I am unable to see that there will be any great reduction until some further means of isolation are effected.” Anti-toxin is supplied for necessitous diphtheria cases.

Hospital Accommodation —Two beds are retained at the Hyde Corporation hospital for the use of this district, and provision is made for small-pox at the Ashton-under-Lyne, &c.,

joint small-pox hospital at Hartshead. Very little advantage is taken of the accommodation available, as only 3 cases of scarlet fever were removed. Last year only 1 patient received hospital isolation. Action is being taken by the districts combined for small-pox hospital purposes, with a view to provision being made for other diseases.

Disinfection.—Once again the Medical Officer of Health points out the necessity for providing efficient disinfecting apparatus. Houses are disinfected by formalin.

Water Supply obtained from the Ashton-under-Lyne, &c., joint waterworks at Swineshaw.

Sewerage, Scavenging, &c.—The bulk of the sewage is treated by precipitation and filtration at the Dukinfield and Stalybridge joint sewerage works, and sanction has been obtained from the Local Government Board to a loan for improving these works at an estimated cost of £31,000. A portion of the sewage of the district is dealt with by the Manchester Corporation. Scavenging—performed by contract—is said to be satisfactory. The provision of a refuse destructor is under consideration.

Sanitary Inspection.—Many back premises of dwellings of the cottage class are in a dilapidated condition, and there are still 1,000 privy middens, only 28 being converted during the year. Dr. Allkin reports, “it is highly necessary for the sanitary welfare of the district that the privy midden be abolished as soon as possible.” Improvements have been carried out at some of the slaughter-houses and farms. Factories and workshops received 272 visits. The Inspector served 151 notices, and as a result 139 nuisances were abated. Smoke observations numbered 78. The Council is advised to fix a time limit for the emission of black smoke.

Chief sanitary require-	A steam disinfectant ; increased
ments.	hospital accommodation ; abolition of privy midden system.

Bacup (Borough).—(Area in acres, 6,120 ; Estimated Population, 24,600).—*Medical Officer of Health*, JOHN BROWN, M.D., D.P.H. ; *Salary*, £150.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·8	15·2	0·52	0·93	2·56	104
1907	22·0	16·6	1·02	0·97	3·91	127
Mean of 10 years						
1898-1907	22·9	16·8	1·40	0·90	3·73	137

Increase or Decrease

on—

Previous Year—0·2 —1·4 —0·50 —0·04 —1·35 —23

Ten Years' Average.—1·1 —1·6 —0·88 +0·03 —1·17 —33

The mortality statistics presented by Dr. Brown compare favourably with last year and the mean of the ten years, 1898-1907. The epidemic death-rate has only been more favourable on one occasion (1905), and the infantile mortality is the lowest recorded. One of the causes of the reduction in the latter rate is said to be the bad state of the cotton trade, which has prevented the mothers going to work in the mills, and enabled them to devote more time to domestic and maternal duties. Another cause was the absence of any serious outbreak of measles or whooping cough amongst very young children.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 22 (1 death), scarlet fever 82 (4 deaths), enteric fever 4, chicken-pox (notifiable since July, 1903) 44, erysipelas 9, puerperal fever 3 (1 death). Deaths from non-notifiable diseases : measles 4, whooping cough 1, diarrhoea 3. Scarlet fever was prevalent during the first five months of the year, but no common source was discovered. As there is

no hospital, all the cases had to be treated at home. Chicken-pox was also troublesome during this period. Measles appeared in the last quarter of the year, and necessitated closure of several schools.

Hospital Accommodation.—Provision for small-pox is made at the joint hospital at Sourhall (Todmorden)—this has been enlarged and now contains 32 beds. Nothing further has been done regarding the proposal to erect an isolation hospital for the three Rossendale Boroughs, viz.:—Bacup, Haslingden, and Rawtenstall.

Disinfection.—No proper disinfecting apparatus. One hundred and eighty-five rooms—including 5 schoolrooms—were disinfected either with sulphur or formalin.

Water Supply.—About one half of the houses in the Borough are supplied with Corporation water, the remainder depend upon private supplies, some of which are “suspicious,” and “many are known to be polluted by surface washings after the fields have been manured.” It is said the people who use this water know the risk and guard against it by filtering and boiling the water. At Higher Change, the private sources failed during the dry weather, and much inconvenience was caused. The new reservoir, at Cowpe, is nearly completed, and preparations are being made to supply those districts where water is needed.

Sewerage, Scavenging, &c.—Sewage undergoes treatment at the joint outfall works (Haslingden, Rawtenstall, and Bacup), in precipitation tanks, percolating beds, and on land. Additional revolving sprinklers are being laid down. Scavenging is performed almost entirely by the Council’s workmen, and on the whole it is well done. A refuse destructor is needed.

Sanitary Inspection.—A few back-to-back houses still remain. The elementary schools have all been inspected, and it is recommended that where the pail system exists,

conversion to the water-carriage system be carried out. Bakehouses are satisfactory, but some of the slaughter-houses are in congested areas and not structurally adapted for their purpose. The new dairy and cowshed regulations have been put into force; although improvements are taking place, very few of the premises comply with the requirements, and many are dark and badly ventilated. Factories and workshops received 167 visits of inspection, 20 defects being found. The closet accommodation is almost entirely on the pail (2,275) or water-carriage system (355), only 23 privy middens now remaining. When the new waterworks reservoir is completed it is intended to push forward the conversion of the pails to the water closet system. The Inspector (Mr. Barnes) reports on the sanitary work accomplished. Five hundred and forty-eight nuisances were abated after the service of 552 notices. Four smoke observations were taken.

Chief sanitary require- A refuse destructor; a steam
ments. disinfectors.

Barrowford.—(Area in acres, 1,385; Estimated Population, 5,500).—*Medical Officer of Health*, F. E. DE BEEHO PIM, L.R.C.P.I.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24.1	13.6	1.09	nil.	2.18	157
1907	24.5	12.7	1.09	0.54	4.00	148
Mean of 10 years						
1898-1907	23.9	13.4	1.54	0.80	2.98	142

Increase or Decrease

on—

<i>Previous year</i>	—0.4	+0.9	...	—0.54	—1.82	+ 9
<i>Ten Years' Average</i>	+0.2	+0.2	—0.45	—0.80	—0.80	+15

A fractional decline in the birth-rate is accompanied by a

slight increase in the general death-rate, and the infant death-rate is also rather higher than that of the previous year.

Infectious Diseases.—Cases notified : diphtheria 1, scarlet fever 17, enteric fever 8 (1 death), erysipelas 14 (1 death). Deaths from non-notifiable diseases : whooping cough 4, diarrhoea 1. To prevent the spread of scarlet fever, children from infected houses were excluded from attendance at schools, and bills containing suggestions for the prevention of the disease were distributed and posted throughout the district.

Hospital Accommodation.—An arrangement exists by which cases of small-pox may be removed to the Nelson Corporation small-pox hospital. Four cases (1 death) of enteric fever were treated at the Burnley sanatorium.

Disinfection.—As in previous years, the Medical Officer of Health recommends his Council to procure apparatus for the disinfection of clothing, &c.

Water Supply good and plentiful, is obtained from the Nelson Corporation reservoirs.

Sewerage, Scavenging, &c.—Sewage is treated by continuous precipitation and irrigation. The sanction of the Local Government Board to the alteration of the sewage outfall works, with regard to which an inquiry was held in the previous year, has been received, and the work is now proceeding. Scavenging—carried out by the Authority—is said to be satisfactory.

Sanitary Inspection.—The sanitary condition of schools is described as satisfactory, and bakehouses, slaughter-houses, dairies and cowsheds are in good order and kept clean, but the latter—not subject to regulations—are short of air space, light, and ventilation. Dr. Pim advises his Council to adopt dairy and cowshed regulations. The sanitary accommodation

of the factories was found to be unsatisfactory. Only 5 notices were required for nuisance abatement. Fourteen smoke observations were taken.

Notable sanitary improve- Extension of sewage works.
ment.

Chief sanitary require- Disinfecting apparatus; drain
ments. tester; regulations as to dairies,
 cowsheds, &c.

Billinge.—(Area in acres, 4,596; Estimated Population, 4,600).—*Medical Officer of Health*, RICHARD O. MATHER, M.B.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	31·0	17·3	0·43	0·65	2·39	146
1907	30·8	10·2	0·66	0·44	2·22	86
Mean of 10 years						
1898-1907	30·2	15·8	1·54	0·66	3·02	151

*Increase or Decrease
on—*

<i>Previous Year</i>	+0·2	+7·1	—0·23	+0·21	+0·17	+60
<i>Ten Years' Average.</i>	+0·8	+1·5	—1·11	—0·01	—0·63	—5

The birth-rate, slightly above last year's average, varied from 36·81 per 1,000 of the population in Billinge Chapel End to 17·24 in Winstanley. The general death-rate is considerably higher than the 1907 rate, and the infant mortality, whilst somewhat lower than the average for the decennial period, 1898-1907, far exceeds the rate recorded for last year.

Infectious Diseases.—Cases notified: scarlet fever 3 (1 death), puerperal fever 1. From non-notifiable diseases: diarrhoea 1 death. In March school closure had to be

resorted to on account of an epidemic of whooping cough ; the disease was of a mild type, not a single death resulting from it or from its complications. Three cases of phthisis were notified voluntarily. The Council supply diphtheritic anti-toxin free of charge.

Hospital Accommodation.—A cottage at Brownlow, with 4 beds, is kept in readiness for the isolation of cases of small-pox. This district is combined under a County Council Order with neighbouring districts for the purpose of providing a small-pox hospital.

Disinfection.—No proper apparatus. For the fumigation of rooms formalin tablets are now being used.

Water Supply of good quality, obtained from old quarry workings. Danger to the watershed area from middensteads has received attention. An inquiry was held, and sanction of the Local Government Board obtained, to a scheme for the construction of two reservoirs, but so far no further steps have been taken.

Sewerage, Scavenging, &c.—Continuous settlement and irrigation is the method of sewage treatment adopted. Additional ventilating shafts have been provided to the sewers, and the nuisance due to escape of sewer gas has ceased to exist. Scavenging is satisfactorily carried out by the Council's workmen.

Sanitary Inspection.—There is a dearth of house accommodation for the artisan class, consequently overcrowding exists, and much old property is occupied which ought to be demolished. The condition of the back yards to the old property is far from satisfactory, being badly paved, and allowing pools of water to stagnate. Bakehouses and slaughter-houses are in fair order, but dairies and cowsheds cannot be considered very satisfactory. Factories and workshops receive periodical visits. About 550

privy middens exist, no conversions having taken place during the last two years. The Inspector served 24 notices for the abatement of nuisances.

Notable sanitary improvement. Improved ventilation of sewers.

Chief sanitary requirements. Better housing for working classes ; paving of back yards ; more attention to dairies and cowsheds.

Birkdale.—(Area in acres, 4,316 ; Estimated Population, 20,000).—*Medical Officer of Health*, A. V. WHEELER, L.R.C.P.E. ; *Salary*, £85.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	15·5	11·5	0·70	0·55	1·00	112
1907	16·1	11·7	0·35	1·00	1·90	93
Mean of 10 years						
1898-1907	19·9	13·7	0·69	1·02	2·11	134

Increase or Decrease

on—

<i>Previous Year</i>	—0·6	—0·2	+0·35	—0·45	—0·90	+19
<i>Ten Years' Average.</i> —	4·4	—2·2	+0·01	—0·47	—1·11	—22

The birth and death rates, fractionally below those of the previous year, are the lowest ever recorded for the district. Dr. Wheeler, in referring to the infantile death-rate as a sure indication of the sanitary state of a district, remarks that light, air, and cleanliness have much to do with children's growth, but on visiting houses in the poorer portion of the district it was frequently found that the tenant was guilty of gross neglect in regard to home requirements.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 3 (2 deaths), scarlet fever 69 (3 deaths),

enteric fever 4, erysipelas 10 (1 death). Deaths from non-notifiable diseases: whooping cough 3, diarrhoea 6. The Medical Officer of Health advocates the appointment of a school nurse who would probably be instrumental in preventing much unnecessary suffering, and would undoubtedly assist in raising the standard of cleanliness and tidiness amongst children. The voluntary notification of phthisis is invited.

Hospital Accommodation is provided for ordinary infectious diseases, 18 beds being available. A "Ducker" hospital (8 beds), is also kept in readiness for small-pox patients. Cases treated: diphtheria 1 (fatal), scarlet fever 57 (2 deaths), enteric fever 1.

Disinfection.—Steam apparatus (Tomlinson, Robinson, and Milan) at hospital available. Houses fumigated with sulphur.

Water Supply of good quality, obtained from the Southport and Birkdale Joint Water Board.

Sewerage, Scavenging, &c.—Sewage treatment consists of precipitation, filtration, and irrigation. Plans are in course of preparation for a main sewerage scheme for the Ainsdale portion of the district. The public elementary schools have been visited frequently, and the drains were flushed and disinfected. Scavenging—in the hands of the Authority—is said to be carried out in a satisfactory manner. As in previous reports the Medical Officer of Health strongly recommends the Council to provide a refuse destructor.

Sanitary Inspection.—One dwelling-house, unfit for habitation, was closed during the year, and one not in a habitable condition put into a proper state of repair. With a single exception the sanitary condition of schools is described as "good." Bakehouses are inspected at regular intervals, cleansing and proper ventilation being insisted upon. Lodging-houses are better controlled than formerly, the Authority having adopted bye-laws for the

regulation of these premises. A public abattoir is advocated. Special attention has been given to the subject of the keeping of swine, alluded to in previous reports, a Sub-Committee, appointed for the purpose, having visited all the pig styes in the district. Cowsheds—described as satisfactory—are subject to inspection by a veterinary surgeon. Eighty-seven inspections of factories and workshops revealed two defects which were subsequently remedied. Offensive privies, in connection with 37 dwellings, were abolished and modern water closets fixed in lieu thereof; there are 1,380 privies still remaining. Mr. Jump, the Inspector, served 43 notices and secured the abatement of 292 nuisances. Seven smoke observations were taken.

Notable sanitary improvements. Surface drainage of Ainsdale extended; thorough inspection of pig styes.

Chief sanitary requirements. Refuse destructor; sewerage of Ainsdale; privy conversion.

Bispham-with-Norbreck.—(Area in acres, 1,346; Estimated Population, 1,809).—*Medical Officer of Health*, JAMES JOHNSON, L.F.P.S.G.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	11·0	16·0	0·55	1·65	2·21	100
1907	20·8	16·3	0·56	0·56	1·69	81
Mean of 5 years						
1903-1907	21·1	15·0	0·57	0·64	1·06	121

Increase or Decrease on—

<i>Previous Year</i>	—9·8	—0·3	—0·01	+1·09	+0·52	+19
<i>Five Years' Average</i>	—10·1	+1·0	—0·02	+1·01	+1·15	—21

An unprecedented decrease in the birth-rate, with a

greater mortality among infants has to be recorded. Excluding the deaths of 10 persons staying temporarily in the district the general death-rate is reduced to 10·5.

Infectious Diseases.—Cases notified : diphtheria 1, scarlet fever 6. From non-notifiable diseases : whooping cough 1 death. Owing to an epidemic of measles during February and March, school closure was found necessary ; the Medical Officer strongly urges his Council to make this disease compulsorily notifiable. All the scarlet fever cases occurred in the first two months of the year.

Hospital Accommodation.—The Fylde, Preston, and Garstang joint hospital, at Elswick, is available for small-pox, and ordinary infectious cases are removed to the joint hospital at Moss Side. Cases treated : scarlet fever 4.

Disinfection.—No apparatus. Fumigation by formalin relied upon.

Water Supply, “delightfully soft, is derived from the Bleasdale and Grizedale fells.”

Sewerage, Scavenging, &c.—Sewage is discharged at a point near dead low water into the sea at Anchorsholme. The works consist of a storage culvert and iron pipe outfall sewer. Part of the Gynn Estate sewage flows (by arrangement) into the Blackpool main. The construction of a sewer from Red Bank Road to Albion Avenue is recommended, and further house connections to the main sewer at Norbreck “are essential for the health of the district.” The desirability of erecting a few ventilating lamps is pointed out. Seventy-six drains were tested with smoke. Scavenging is satisfactorily carried out under the direction of the Council.

Sanitary Inspection.—All the cowsheds in the district have been inspected, and further progress with regard to cleanliness, light, and ventilation is reported. Factories and

workshops were subjected to 58 inspections, revealing 4 defects. The Inspector (Mr. Harrop) served 52 notices for the abatement of 33 nuisances.

Blackrod.—(Area in acres, 2,392; Estimated Population, 4,000).—*Medical Officer of Health*, J. W. UNSWORTH, M.B.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	29·0	15·0	1·00	0·50	5·00	112
1907	25·7	12·5	2·00	0·75	3·00	106
Mean of 10 years						
1898-1907	30·8	15·9	2·34	0·55	3·68	140

Increase or Decrease

on—

<i>Previous Year</i>	+3·3	+2·5	—1·00	—0·25	+2·00	+6
<i>Ten Years' Average</i>	—1·8	—0·9	—1·34	—0·05	+1·32	—28

The marked decline in the birth-rate, recorded in 1907, has not been maintained in the year under review. The death-rate is not so favourable as in the previous year, and the infantile mortality has also slightly increased.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 2 (1 death), scarlet fever 7, enteric fever 2, erysipelas 1. Deaths from non-notifiable diseases: measles 3. The reduction in the number of cases of notifiable infectious diseases is attributed by Dr. Unsworth to—(1) early removal to hospital; (2) disinfection of schools; (3) more efficient disinfection of dwelling-houses; (4) greater care taken by the parents in trying to prevent the spread of disease. Measles appeared in epidemic form at the beginning of May. Closure of all the schools in the district was restored to.

Hospital Accommodation provided at Fall Birch jointly with Horwich, &c. Cases treated: diphtheria 1 (fatal), scarlet

fever 6, enteric fever 2. This district is one of the constituent Authorities under the Wigan, &c., Small-pox Hospital Order.

Disinfection.—No apparatus.

Water Supply, obtained from the Council's own reservoir at Rivington, "is excellent in quality and abundant."

Sewerage, Scavenging, &c.—Sewage is treated by settlement and irrigation on two farms, viz. :—"Nightingale," in the Ribble Watershed, and "Scot Lane," in the Mersey and Irwell Watershed. The Authority carry out scavenging.

Sanitary Inspection.—The sanitary condition of schools is described as "good," and bakehouses and slaughterhouses are said to be well kept. Dairies and cowsheds—with one exception—are now satisfactory; in the latter case plans have been passed for a new building. Eleven inspections of factories and workshops were made. Only 2 conversions of privies to water closets took place, although over six hundred exist. Notices served for nuisance abatement amounted to 22.

Brierfield.—(Area in acres, 807; Estimated Population, 8,400).—*Medical Officer of Health*, J. S. WILSON, M.B.; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·8	14·2	1·66	1·54	2·73	151
1907	21·8	12·5	0·24	1·21	3·53	150
Mean of 10 years						
1898-1907	24·8	13·8	1·82	0·93	3·17	159
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+1·0	+1·7	+1·42	+0·33	—0·80	+1
<i>Ten Years' Average</i> .—	2·0	+0·4	—0·16	+0·61	—0·44	—8

The steady decline in the death-rate during the preceding

4 years is not maintained, and the epidemic rate does not occupy such a satisfactory position as in 1907. The operation of the Notification of Births Act has been deferred, owing to the Local Government Board usually requiring a nurse to follow up the cases, and, as there is not sufficient work to justify such an appointment, the Medical Officer suggests an arrangement with the Burnley Nursing Association.

Infectious Diseases.—Cases notified : diphtheria 1 (fatal), scarlet fever 9, enteric fever 1 (fatal), erysipelas 4. Deaths from non-notifiable diseases : measles 2, diarrhoea 10.

Hospital Accommodation, for all purposes, provided jointly with Burnley Corporation, &c., Cases treated : scarlet fever 5, enteric fever 1 (fatal).

Disinfection.—The Burnley steam apparatus may be used. Houses are fumigated by sulphur or formalin.

Water Supply, received from Nelson Corporation, is good and plentiful. In Halifax Road and in some of the lower parts of the town insufficient pressure is experienced, owing to the main being too small for present requirements. A few cottages about Marsden Cross now receive a supply from the Nelson main. A satisfactory supply of spring water is available for the residents of Marsden Heights.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks and double contact beds. The first contact beds have been replenished during the year. Scavenging is satisfactorily dealt with by the Authority. The destructor at Nelson was again extensively used.

Sanitary Inspection.—A special report on the condition of the slaughter-houses has been prepared. The Council are still awaiting the sanction of the Local Government Board to dairy, &c., regulations said to have been drawn up in 1906. (No reply has been received to enquiry from the District

Council as to the reason for this delay.) Factories and work-shops have been regularly visited, the lighting, ventilation, &c., being found suitable. Four privy middens underwent conversion to the water-carriage system. Six canal boats were examined. The Inspector (Mr. Halstead) served 64 notices for the abatement of 112 nuisances.

Notable sanitary improve- ments.	Conversion of mill tank closets to water closets ; first contact beds at sewage works re- plenished.
Chief sanitary require- ment.	A larger water main in order to give a more efficient supply to the lower part of district.

Carnforth.—(Area in acres, 1,505 ; Estimated Population, 3,200).—*Medical Officer of Health*, EDWARD S. JACKSON, M.D. ; *Salary*, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·2	13·7	nil.	1·25	2·81	161
1907	18·4	14·0	0·31	nil.	2·18	84
Mean of 10 years						
1898-1907	27·0	12·2	0·59	0·45	1·84	106
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i> ...	+2·8	—0·3	—0·31	+1·25	+0·63	+77
<i>Ten Years' Average.</i> —	5·8	+1·5	—0·59	+0·80	+0·97	+55

A fractional decrease in the death-rate is noted, but the infantile mortality is much higher than usual, and is the highest recorded for the district

Infectious Diseases.—Cases notified : scarlet fever 8. From non-notifiable diseases : no death. School closure was resorted to on account of the prevalence of measles.

Hospital Accommodation.—An iron structure, situated at Crag Bank, contains 2 wards, each with 6 beds. Cases treated : nil.

Disinfection.—No apparatus, fumigation of houses by sulphur relied upon.

Water Supply, from the Carnforth Waterworks Company's reservoir, situated at Withets, is "satisfactory and pure."

Sewerage, Scavenging, &c.—Sewage flows into a settling tank, the overflow entering the tidal waters of the river Keer. Periodical flushing of the sewers takes place. Scavenging is performed by contract.

Sanitary Inspection.—House accommodation of the working classes is "very satisfactory." Bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops, received systematic inspection, and on the whole were found to be in good condition. Although 250 privy middens exist in the district no conversions took place this year or last. As in 1907, no notices for nuisance abatement were served.

Chadderton.—(Area in acres, 3,082 ; Estimated Population, 27,400).—*Medical Officer of Health*, HAROLD ASHTON, L.R.C.P.E. ; *Salary*, £65.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	28·7	17·2	1·82	1·05	2·73	147
1907	28·8	19·1	1·62	1·81	4·07	166
Mean of 10 years						
1898-1907	27·4	18·1	2·04	1·44	3·43	163
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i> ...	—0·1	—1·9	+0·20	—0·76	—1·34	—19
<i>Ten Years' Average.</i>	+1·3	—0·9	—0·22	—0·39	—0·70	—16

A birth-rate, practically identical with last year, is

accompanied by a decline in the mortality averages, excepting the epidemic death-rate. The infant rate, although still high, shows an appreciable reduction.

Infectious Diseases. — Cases notified : diphtheria and membranous croup 14 (5 deaths), scarlet fever 55 (2 deaths), enteric fever 12 (2 deaths), erysipelas 10. Deaths from non-notifiable diseases : measles 23, whooping cough 3, diarrhœa 15. As in the previous year diphtheria had a high case mortality, but the disease was less prevalent than for the last 5 years, and the same remark applies to both scarlet fever and enteric fever. Measles prevailed extensively throughout the year, especially in May, August, September, and December, school closure at various times having to be resorted to.

Hospital Accommodation is provided at the joint hospital at Cinder Hill for small-pox, and, by arrangement, the West-hulme hospital, belonging to the Oldham Corporation, is used for other infectious diseases. Cases treated : scarlet fever 4, enteric fever 4.

Disinfection.—The steam apparatus at the Cinder Hill hospital is available for the disinfection of clothing, bedding, &c., in case of small-pox. For other diseases there is no provision, house fumigation with sulphur being relied upon.

Water Supply good, obtained from the Oldham Corporation.

Sewerage, Scavenging, &c.—The sewage works consist of precipitation tanks, single contact beds, and land. The Order of Court, obtained by the Mersey and Irwell Joint Committee, requiring the Council to execute certain works in connection with the interception of the sewage from a portion of their district, has again, from time to time, been extended. The Council have accepted a tender and entered into a contract for the alteration to and enlargements of the main sewage works at a cost of nearly £21,000, and the work is now in progress. The Authority undertake scavenging. The

attention of the Council is directed to the dirty condition of a street close to the main entrance of Stanley Road school, which would be considerably improved by being paved and the footpath flagged.

Sanitary Inspection.—Three houses were condemned and closed as unfit for human habitation. The sanitary condition of schools, bakehouses, and slaughter-houses is described as “good.” Dairies and cowsheds are said to be “fair,” and subject to regulations, but these are not enforced. Seventy-seven visits of inspection to factories and workshops were made. The examination of 4 canal boats revealed no defects. There is only 1 privy midden remaining in the district, but the number of pail closets is said to be 4,727. The Inspector served 236 notices, and as a result secured the abatement of 209 nuisances. Eighty-five smoke observations were taken.

Chief sanitary require- Refuse destructor; connection of
ments. drains to new sewers.

Childwall.—(Area in acres, 830; Estimated Population, 225).—*Medical Officer of Health*, HENRY HARVEY, M.B.; Salary, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	13·3	13·3	4·44	nil.	nil.	333
1907	17·7	8·8	nil.	nil.	nil.	250
Mean of 10 years						
1898-1907	12·7	5·4	nil.	nil.	1·35	125
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—4·4	+4·5	+4·44	...	...	+83
<i>Ten Years' Average</i> ..	+0·6	+7·9	+4·44	...	—1·35	+208

Three births and 3 deaths were registered during the

year. Of the latter one was that of a child prematurely born, one from scarlet fever, in hospital, and one from old age. The death from scarlet fever is the first from any of the principal epidemic diseases since 1896,¹ and no death has been registered as due to phthisis since 1890.

Infectious Diseases.—No cases were notified. The death from scarlet fever above referred to was that of a case notified last year and which was removed to hospital.

Hospital Accommodation.—By arrangement the Liverpool Corporation hospitals are available.

Disinfection is also carried out by the Liverpool Authorities.

Water Supply excellent, from the Liverpool main.

Sewerage, Scavenging, &c.—Drainage is mainly into cesspools, situated at some distance from the houses; some of these overflow into a small brook which runs through agricultural land, but no complaint has arisen therefrom. Refuse removal is undertaken by farmers under contract; roads and streets are scavenged by employees of the Council.

Sanitary Inspection.—Periodical tours of inspection of the district have been made and no serious nuisances were discovered. The old cottages are in a better sanitary condition than formerly, and the same remark applies to the cowsheds. The latter, however, are not subject to regulations.

Chief sanitary require-	If building to any considerable
ments.	extent takes place a proper
	system of drainage will be
	needed.

The report is in manuscript.

Chorley (Borough).—(Area in acres, 3,614; Estimated Population, 30,500).—*Medical Officer of Health*, JAMES A. HARRIS, M.D. (Lond.); *Salary*, £60 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·1	14·9	1·11	1·01	2·13	138
1907	25·5	15·9	1·20	0·86	2·76	171
Mean of 10 years						
1898-1907	27·9	17·6	1·50	0·94	3·21	172

*Increase or Decrease
on—*

<i>Previous Year</i> ...	+1·6	—1·0	—0·09	+0·15	—0·63	—33
<i>Ten Years' Average.</i>	—0·8	—2·7	—0·39	+0·07	—1·08	—34

There is an improvement in the statistics as compared not only with those obtaining in 1907, but also with the average of the preceding decade. The birth-rate is higher than for some years, and the death-rate and infantile mortality are the lowest recorded.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 15 (2 deaths), scarlet fever 18 (1 death), enteric fever 10 (4 deaths), erysipelas 9. Deaths from non-notifiable diseases: measles 1, whooping cough 16, diarrhoea 10. The number of infectious diseases reported was the lowest since the adoption of the Notification Act. Scarlet fever has markedly decreased during the last three or four years, but there has been a slight increase in the diphtheria notifications. Enteric fever was responsible for a few more attacks (10), than in 1907 and 1906 (5 and 8, respectively) but closely approaches the average number of cases notified since the water-closet conversion was completed in 1901, viz.: 10·8, whilst in the 11 preceding years (1891-1901) the average number of cases notified was 48·5 per annum. Measles was

not rife in 1908, and only caused one death against 23 in the previous year, but whooping cough was very prevalent, especially in the early months of the year, and contributed 16 deaths as compared with 7 in 1907.

Hospital Accommodation.—The joint hospital at Heath Charnock contains 36 beds, and for small-pox an arrangement exists with the Blackburn Corporation whereby 10 beds at the Finnington small-pox hospital are reserved for cases occurring in the Chorley, &c., Joint Hospital Board's districts. Cases treated : diphtheria 2, scarlet fever 15, enteric fever 3 (1 death).

Disinfection.—Steam apparatus (Goddard, &c.) provided. This was used for the disinfection of 867 articles, and 36 houses were fumigated with sulphur.

Water Supply good, obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and irrigation at four outfall works, viz., Heapey, Botany, Cowling, and the main works at Common Bank. The Local Government Board have sanctioned a loan of £11,500 for enlarging and extending the main sewer, and for providing additional sludge press at the last mentioned outfall works. Ventilating shafts to the sewers have been affixed in various parts to obviate nuisance due to sewer gas, and during the hot months regular flushing of the sewers took place. Scavenging is satisfactorily carried out by the Corporation's employees. The refuse destructor has been brought more up-to-date, and a fish manure plant has been erected.

Sanitary Inspection.—Two insanitary houses were condemned, 5 closed, and 40 have been made more habitable. School premises are in good sanitary condition, and the same remark applies to bakehouses, although 3 are underground. The public slaughter-house is not up to present date requirements, and Dr. Harris has for some considerable time been

urging his Council to carry out certain alterations which would effect a great sanitary improvement. At a number of the cowsheds water has been laid on, the ventilation and drainage improved, and overcrowding abolished under the requirements of the new regulations. Factories and workshops are reported upon favourably. The closet accommodation of the Borough is almost entirely on the water-carriage system, only 7 privy middens and 12 pail closets now remaining. A loan of £158 has been sanctioned for the alteration of the closets in Cowling, and this will complete the conversion from the pail and midden system to water closets. Notices served numbered 1,466; smoke observations 7.

Notable sanitary improvements.	Alterations and improvements of cowsheds; dilapidated houses repaired; additions to main drainage system; complete destruction of all refuse.
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Chief sanitary requirements.	Alteration of public slaughter-house; erection of public baths.
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Church.—(Area in acres, 529; Estimated Population, 6,900).—*Medical Officer of Health*, A. B. Craig, M.B.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24·0	17·2	1·30	0·57	3·18	168
1907	23·7	13·8	2·04	0·87	3·06	122
Mean of 10 years						
1898-1907	24·7	16·1	2·22	0·91	3·21	150

Increase or Decrease on—

<i>Previous Year</i>	+0·3	+3·4	—0·74	—0·30	+0·12	+46
<i>Ten Years' Average</i>	—0·7	+1·1	—0·92	—0·34	—0·03	+18

The mortality statistics—excepting the epidemic and

phthisis death-rates—compare unfavourably with those of 1907. Dr. Craig says, “it is regrettable that the past year should show such a reversion to the old state of affairs as regards infantile mortality, but so long as so many mothers hurry back to the mills as soon as possible after child-birth, and their babies are so often improperly fed, we in this township must depend upon favourable atmospheric conditions for a low infantile death-rate.”

Infectious Diseases.—Cases notified : diphtheria 5 (3 deaths), scarlet fever 10, enteric fever 11 (1 death), erysipelas 3 (1 death), puerperal fever 1 (fatal). Deaths from non-notifiable diseases : whooping cough 1, diarrhoea 4. Seven of the enteric fever cases occurred in the month of August.

Hospital Accommodation for ordinary infectious diseases, nil. For small-pox an arrangement with Blackburn Corporation to take cases from this district has been made.

Disinfection.—Steam chamber provided at the gasworks.

Water Supply obtained from the Accrington, &c., Joint Board. Numerous complaints have been made as to the quality of the water which at times is said to have been “offensive both as regards taste and smell.” Is this due to deposit in the mains or reservoir supplying this district ?

Sewerage, Scavenging, &c.—Sewage is treated at the Accrington and Church joint outfall works at Coppy Clough, by open septic tanks, sprinkler filters, and sedimentation tanks. A scheme has been laid before the Local Government Board for the extension of sewers. Scavenging has been well performed by the Council’s employees.

Sanitary Inspection. — Bakehouses, slaughter-houses, dairies and cowsheds are all described as “satisfactory,” but the lodging-house is “indifferent.” At certain of the mills and workshops the sanitary conveniences have been improved.

Thirty-four canal boats were examined. Notices served for the abatement of nuisances numbered 161. Smoke observations 50.

Notable sanitary improvements. Paving and sewerage of back streets.

Chief sanitary requirement. A main sewer from Fox Street to the outfall works.

Clayton-le-Moors. — (Area in acres, 1,059; Estimated Population, 9,000).—*Medical Officer of Health*, L. TATTERSALL, M.R.C.S.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 * Births.
1908	25·5	14·0	2·11	0·66	2·33	134
1907	26·6	13·5	0·89	0·67	2·24	143
Mean of 10 years						
1898-1907	27·9	16·0	1·91	0·80	2·61	160
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i> ...	—1·1	+0·5	+1·22	—0·01	+0·09	—9
<i>Ten Years' Average.</i> —	2·4	—2·0	+0·20	—0·14	—0·28	—26

A birth-rate lower than any previously recorded for the district, excepting 1905, is accompanied by a slightly increased death-rate, causing an interruption to the gradual decline of this latter rate which has taken place during the past 6 years. Referring to infantile mortality, Dr. Tattersall remarks that, “so long as the conditions obtain as generally is the case in manufacturing districts, where parents leave their children to be fed and nursed anyhow, the percentage of mortality will still be large.” He further adds that it is

difficult to inculcate ideas relating to the laws of health in parents; great indifference is shown in many instances as regards the diet and clothing of young children.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 14 (2 deaths), scarlet fever 18, enteric fever 3 (1 death), erysipelas 10, puerperal fever 3 (2 deaths). Deaths from non-notifiable diseases: measles 2, whooping cough 4, diarrhoea 10.

Hospital Accommodation.—Nil, but an arrangement exists with the Accrington Corporation to take cases of small-pox if such should arise.

Disinfection.—No apparatus.

Water Supply, abundant in quantity, is obtained from the Accrington, &c., Joint Board. The water is of comparatively pure quality, being “clear and free from smell.”

Sewerage, Scavenging, &c.—Sewage is treated at the Clayton-le-Moors and Great Harwood joint outfall works by continuous precipitation, single contact, and irrigation. Numerous complaints have again been made regarding noxious smells from the sewage works of Altham (Burnley R.). Scavenging, carried out partly by the Authority and partly by contract, is said to give satisfaction.

Sanitary Inspection.—House accommodation has much improved during the year; two cases of overcrowding came under observation, and notices to abate were served on the occupiers. The sanitary condition of schools, bakehouses, and slaughter-houses is described as “good.” The provision of a public abattoir, which would facilitate the better inspection of all animals and meat, and the disposal of offal and refuse is again recommended. Two cases of preparing diseased meat for human consumption came under notice; in one

instance the carcase was seized and destroyed, whilst in the other a prosecution was entered upon, but the Magistrates decided that there was not sufficient evidence to entitle a conviction. Dairies and cowsheds have been periodically visited, and found in a better condition than formerly, several improvements with regard to ventilation and drainage having been carried out. Eighty-four inspections of factories and workshops revealed 2 defects. The closet accommodation of the district is chiefly on the waste-water system; 5 privies were converted to water closets during the year. The Inspector (Mr. Dixon) served 55 notices and secured the abatement of 77 nuisances. Nine smoke observations were taken.

Notable sanitary improvements. Alterations to slaughter-houses and dairies and cowsheds.

Clitheroe (Borough).—(Area in acres, 2,385; Estimated Population, 13,000).—*Medical Officer of Health*, WM. E. BARKER, M.B.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·9	12·7	0·53	0·76	1·38	120
1907	23·6	13·3	0·80	0·96	1·60	104
Mean of 10 years						
1898-1907	23·0	15·0	1·23	0·98	2·26	132
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—0·7	—0·6	—0·27	—0·20	—0·22	+16
<i>Ten Years' Average</i>	—0·1	—2·3	—0·70	—0·22	—0·88	—12

The birth-rate is fractionally below the ten years' average, and the general death-rate is the lowest recorded. The infantile mortality, although below the average of the previous decade, shows a fairly considerable increase as compared with 1907.

The Council have adopted the Notification of Births Act, and arrangements have been made for a nurse to visit the houses where considered necessary.

Infectious Diseases.—Cases notified: scarlet fever 97 (2 deaths), enteric fever 4 (1 death), erysipelas 9. Deaths from non-notifiable diseases: diarrhoea 4. An epidemic of scarlet fever was experienced, commencing in July and continuing to the end of the year. The cases were mild and were spread throughout the town, and as no particular school was affected closure was not resorted to. In some instances the disease was probably caused by the attendance at school of children suffering from a mild form of the disease.

Hospital Accommodation.—A small-pox hospital (8 beds) is provided jointly with the Clitheroe and Bowland Rural District Councils.

Disinfection.—No apparatus. The provision of proper disinfecting appliances is “a pressing necessity.” Eighty-six houses were fumigated with sulphur.

Water Supply, from upland sources, is excellent in quality and adequate in amount.

Sewerage, Scavenging, &c.—Sewage treatment consists of continuous settlement, precipitation, and irrigation. Additional sewers have been constructed, and application has been made to the Local Government Board for leave to borrow £6,000 for additional tanks at the outfall works. The sewers are periodically flushed. Scavenging—efficiently performed—is carried out partly by the Authority and partly by contract.

Sanitary Inspection.—The house accommodation for the working classes has, during recent years, been much improved, but in the older parts of the town there are still 177 back-to-back houses in existence. Bakehouses are well adapted, and slaughter-houses in fair condition. The public abattoir, completed in 1907, is not fully utilised. Dairies and cowsheds

are kept clean, but some of the shippons are defective as regards light, ventilation, and air space. One hundred and seventy-nine visits were paid to factories and workshops; they are well kept as regards cleanliness, and the sanitary accommodation is in a fair condition. Six old midden privies were abolished; very few (23) now remain, these being mostly in the outlying parts. A considerable number of fresh and slop-water closets have been provided in lieu of pail closets. The Inspector (Mr. Davies) secured the abatement of 247 nuisances. "Many" smoke observations were taken.

Notable sanitary improvements. Paving and sewerage of back streets; provision of water closets in lieu of pails.

Chief sanitary requirements. Disinfecting apparatus; refuse destructor; "perhaps an isolation hospital"; a time limit for the emission of black smoke.

Colne (Borough).—(Area in acres, 5,063; Estimated Population, 26,190).—*Medical Officer of Health*, W. LYONS LOVETT, L.R.C.P.E.; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births
1908	23·3	14·3	1·68	1·33	2·90	145
1907	23·0	14·5	0·99	1·10	3·90	122
Mean of 10 years						
1898-1907	25·8	14·3	1·96	1·04	3·08	160
<i>Increase or Decrease on—</i>						
<i>Previous Year</i> ...	+0·3	—0·2	+0·69	+0·23	—1·00	+23
<i>Ten Years' Average.</i> —	2·5	...	—0·28	+0·29	—0·18	—15

The birth-rate, showing a fractional increase on last year,

varied from 31·17 per 1,000 in Laneshawbridge Ward to 20·77 in Central Ward, and the death-rate—slightly decreased—varied from 14·50 in Primet Bridge Ward to 8·78 in Vivary Bridge Ward. The infantile mortality rose mainly through deaths from premature birth, debility, and diarrhœa. Central Ward had the highest rate, viz., 203 per 1,000 births, and Vivary Bridge Ward the lowest, 74. The Notification of Births Act came into operation in February, 1908, and a Health Nurse was appointed.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 13 (5 deaths), scarlet fever 153 (2 deaths), enteric fever 10 (2 deaths), erysipelas 15, puerperal fever 1 (fatal). Deaths from non-notifiable diseases : measles 13, whooping cough 3, diarrhœa 19. Scarlet fever was most prevalent during the last half of the year, when 121 cases were notified. Widal's test was applied in several enteric fever cases, and bacteriological assistance was obtained in diphtheria cases.

Hospital Accommodation is available for small-pox, and an arrangement exists with the Burnley, &c., Joint Hospital Board to take cases of other infectious diseases. Cases treated : diphtheria 1, scarlet fever 3, enteric fever 4 (2 deaths), erysipelas 2.

Disinfection.—No proper apparatus, house fumigation with sulphur and formalin relied upon.

Water Supply good, the new filters have acted satisfactorily, and during the summer no complaints have been made regarding either colour or taste.

Sewerage, Scavenging, &c.—Sewage is treated (a) by open septic and double contact, and (b) by open septic and irrigation. The Local Government Board has consented to a loan of £3,600 for additional bacteria beds, and the work has partially been carried out. Scavenging is satisfactorily performed by the Authority ; 4,559 tons of refuse were taken to the destructor.

Sanitary Inspection.—Bakehouses (22), are in good order, and slaughter-houses (7) are fair. A public abattoir is provided. Common lodging-houses and houses let in lodgings are kept under constant supervision. Bye-laws applying to lodging-houses and slaughter-houses came into operation in April. The majority of the dairies and cowsheds are not satisfactory, and a number of notices requiring alterations and improvements were served. Factories and workshops received 165 visits of inspection, 17 defects being found and remedied. The closet accommodation is mainly on the water-carriage system, only 2 privy middens remaining. A number of pail closets will shortly be converted, and thus remove a long standing nuisance. The Inspector (Mr. Sugden) reports on the sanitary work accomplished. Notices served numbered 319, nuisances abated 346, smoke observations 40, &c.

Crompton.—(Area in acres, 2,865; Estimated Population, 14,200).—*Medical Officer of Health*, WILLIAM BROOKE, M.A., M.D.; *Salary*, £70.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·6	15·8	1·19	0·84	3·94	151
1907	20·8	15·8	1·53	1·19	2·67	121
Mean of 10 years						
1898-1907	24·1	17·1	1·64	0·84	3·54	162
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+2·8	...	—0·34	—0·35	+1·27	+30
<i>Ten Years' Average.</i> —	0·5	—1·3	—0·45	...	+0·40	—11

Although the birth-rate shows an advance on the previous year, the infant rate, unfortunately, assumes an unsatisfactory position. “The Council, fully alive to the gravity

of the situation, has adopted the Notification of Births Act, 1907, and to ensure its effective working has appointed an assistant lady sanitary inspector." This, Dr. Brooke considers a step in the right direction, "and likely to effect more real improvement than either lectures or leaflets, which, however excellent they may be, seem only to have a transitory influence, and little lasting benefit results."

Infectious Diseases.—Cases notified: diphtheria and membranous croup 4, scarlet fever 93 (7 deaths), enteric fever 8 (4 deaths), erysipelas 4 (1 death), puerperal fever 2 (1 death). Deaths from non-notifiable diseases: whooping cough 4, diarrhoea 2. Anti-toxin is supplied to medical practitioners free of charge. Scarlet fever was prevalent throughout the year, but more especially in the last four months. Isolation of cases of this disease at home "did not give satisfactory results." School closure was not adopted.

Hospital Accommodation.—The hospital, under the control of the Chadderton, Crompton, and Royton Joint Board, at Cinder Hill, is available for small-pox; ordinary infectious cases are removed, by arrangement, to the West-hulme (Oldham) hospital. Cases treated: scarlet fever 18 (1 death), enteric fever 1. The Medical Officer believes it would be more satisfactory if the above-mentioned Joint Board would extend their hospital accommodation so as to include other infectious diseases, for the possibility might arise of Oldham some day being unable to take in outside cases.

Disinfection.—A "Thresh" steam apparatus available at Town Hall. Seventy-six houses were fumigated with formalin or sulphur.

Water Supply, of good quality, furnished by Oldham. There are a few wells in certain parts of the district, which, as a rule, yield a supply of pure water.

Sewerage, Scavenging, &c.—Sewage is treated at Cowlshaw and Newhey, the method in use being precipitation and single contact. The Mersey and Irwell Joint Committee found it necessary to take legal proceedings against the Council for permitting, in November, a polluting effluent from the New Hey works to enter the River Beal. The Court ordered the necessary extensions to these works to be carried out before the expiration of six months. The drainage of the district is not yet fully accomplished, but the Council has the matter in hand, and the completion of the system may be expected in the near future. The Authority efficiently perform scavenging.

Sanitary Inspection.—House accommodation, although fairly good, has recently become inadequate. A number of old houses, especially in the outlying portion of the district, are in an unsatisfactory state. New bye-laws relating to buildings are under consideration of the Local Government Board. The sanitary condition of schools, bakehouses, &c., is fairly satisfactory. The use of the only cellar bakehouse in the district has been discontinued. Dairies and cowsheds—54 in number—have been periodically inspected, and found clean. In several instances notices regarding defective premises have been served. A quantity of food, certified as unfit for human consumption, was seized at a butcher's shop, but the owner's explanation was accepted by the Health Committee. Over 200 inspections of factories and workshops were made, only 2 defects being encountered. The Inspector served 154 preliminary and 147 statutory notices for nuisance abatement. In two cases the offender had to be proceeded against. Smoke observations numbered 30.

Chief sanitary require-	Refuse destructor ;	completion
ments.	of drainage of district ;	better
	provision for isolation of cases	
	of infectious disease.	

Croston.—(Area in acres, 2,347 ; Estimated Population, 2,145).—*Medical Officer of Health*, ALFRED DUCKWORTH, L.R.C.P.E. ; *Salary*, £20.

Vital Statistics.

PER 1,000 OF POPULATION.							Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.		
1908	20·5	12·1	2·33	1·39	1·86		159
1907	17·3	10·3	0·46	0·93	0·93		108
Mean of 10 years							
1898-1907	23·3	13·9	0·92	0·92	2·17		101
<i>Increase or Decrease</i>							
<i>on—</i>							
<i>Previous Year</i> ...	+3·2	+1·8	+1·87	+0·46	+0·93		+51
<i>Ten Years' Average.</i> —	2·8	—1·8	+1·41	+0·47	—0·31		+58

A rise in the birth-rate is accompanied by an increase in each of the mortality averages, the epidemic and infant rates being the highest for the past 8 years. The Medical Officer of Health remarks that the custom of taking young infants from a warm room to a cold room in winter time is an easy way of promoting infantile diseases.

Infectious Diseases. — Cases notified : diphtheria and membranous croup 11 (3 deaths), enteric fever 1. Deaths from non-notifiable diseases : whooping cough 1, diarrhoea 1. Diphtheria was prevalent in a desultory form from March to October, the cases occurring in all parts of the village, although the majority of the affected children attended one of the infant schools, and this was closed. Swabs of throat secretions were taken and submitted for examination, and later certain structural alterations were carried out at the school. Measles of a mild type occurred during the months of April and May, and it was deemed advisable to adopt

school closure. Influenza caused a considerable amount of sickness in the early part of the year, but, fortunately, no death resulted.

Hospital Accommodation.—The West Lancashire Rural Council's hospital at Aughton is said to be available, but no cases were removed.

Disinfection. — A “Thresh” steam disinfectant at the hospital is available.

Water Supply is still obtained from wells, the scheme for obtaining water from the Thirlmere main of the Manchester Corporation being not yet fully completed.

Sewerage, Scavenging, &c.—Method of sewage treatment : precipitation and irrigation. Complaint is made as to a nuisance arising from the River Yarrow. Scavenging is said to be satisfactorily performed by the Authority, but the necessity for the more cleanly condition of the streets during a portion of the year is pointed out. As in previous reports reference is made to uncovered ashpits as being a source of nuisance and disease, the Council being recommended to insist on same being covered.

Sanitary Inspection.—The sanitary condition of schools, bakehouses, and slaughter-houses is said to be “good.” Dairies and cowsheds are subject to regulations ; unfortunately these are not strictly enforced, and the Medical Officer of Health states that little progress has been made in the improvement of cowsheds during the year. Fifty-five inspections of factories and workshops resulted in 4 defects being found and remedied. Only one notice was necessary for nuisance abatement.

Notable sanitary improve- New scheme for water supply.
ment.

The report is in manuscript.

Dalton-in-Furness.—(Area in acres, 7,990 ; Census Population, 13,020).—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H. ; *Salary*, £115.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25·6	13·8	1·15	0·84	2·45	125
1907	24·1	15·2	1·61	1·15	3·07	143
Mean of 10 years						
1898-1907	28·6	15·8	1·78	1·24	2·78	146
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·5	—1·4	—0·46	—0·31	—0·62	—18
<i>Ten Years' Average</i>	—3·0	—2·0	—0·63	—0·40	—0·33	—21

The statistics compare favourably with those of 1907, a slight increase in the birth-rate being accompanied by a decrease in all the mortality averages. The rates per 1,000 of the population for the three sub-divisions are as follow :—

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Infantile mortality.
Dalton and Newton	25·8	14·9	1·0	142
Lindale and Marton	29·2	12·3	nil.	38
Askam and Ireleth	24·0	11·2	1·87	103

Infectious Diseases. — Cases notified : diphtheria 2 (1 death), scarlet fever 3, enteric fever 6 (2 deaths), erysipelas 5 (1 death), puerperal fever 1. Deaths from non-notifiable diseases : diarrhoea 12. The number of notifications of infectious diseases is the lowest recorded for twelve years. In July an outbreak of measles occurred at Askam, necessitating closure of part of a school, but the disease did not become extensively prevalent.

Hospital Accommodation provided at the joint hospital at High Carley. For small-pox an arrangement has been

made with the Barrow Corporation. Cases treated : scarlet fever 2, enteric fever 4.

Disinfection.—No apparatus. Thirteen rooms disinfected with formalin.

Water Supply obtained mainly from the Barrow Corporation. The quality of the water supplied to Askam and Ireleth, so long complained about, will shortly be much improved, as many of the corroded service pipes have been taken up and renewed, and the main will be replaced by a new one. Other parts of the district with defective supplies are receiving attention.

Sewerage, Scavenging, &c.—After subsidence in tanks the sewage is discharged into the sea. The Askam and Newton outfalls have been “working quite efficiently.” Considerable lengths of sewers have been laid, and gradual progress is being made in disconnecting surface-water drains from the main sewer and connecting them to the storm-water sewer. Scavenging is carried out under the direction of the Council’s officials.

Sanitary Inspection.—Systematic house-to-house inspections are undertaken. Schools, bakehouses, and slaughterhouses are described as “fair.” As a rule little difficulty is experienced in obtaining compliance with the bye-laws. The ventilating, lighting, drainage, and cubic space of many of the cowsheds leave much to be desired. A detailed report upon the condition of these places is being prepared. The provisions of the Factory and Workshop Act are generally carried out. The privy middens in the district have been a frequent source of nuisance; ninety-five were converted to the water-carriage system during the year. The Inspector (Mr. Caine) secured the abatement of 1337 nuisances.

Darwen (Borough).—(Area in acres, 5,959; Estimated Population, 42,266).—*Medical Officer of Health*, F. G. HAWORTH, M.B., C.M., D.P.H. ; *Salary*, £250.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·1	13·0	0·75	0·59	1·58	119
1907	20·9	12·5	0·69	0·83	2·62	118
Mean of 10 years						
1898-1907	23·4	15·2	1·76	0·76	3·11	154
<i>Increase or decrease on—</i>						
<i>Previous Year</i>	+0·2	+0·5	+0·06	—0·24	—1·04	+1
<i>Ten Years' Average</i>	—2·3	—2·2	—1·01	—0·17	—1·53	—35

The birth-rate, slightly above last year's average, is the highest since 1903; it varied from 23·41 per 1,000 in North-West Ward to 17·72 in Central Ward. The general death-rate, epidemic death-rate, and infantile mortality are all well below the ten year's average, but fractionally in excess of the 1907 figures. By the adoption of the Notification of Births Act, the formation of a "Mothers' Club," regular and systematic visits by the health visitor to houses where a birth has taken place, and the distribution of leaflets on the feeding and management of infants, it is hoped to reduce the infant mortality below 100 per 1,000 births.

Infectious Diseases. — Cases notified: diphtheria and membranous croup 14 (2 deaths), scarlet fever 22 (2 deaths), enteric fever 23 (8 deaths), erysipelas 14, puerperal fever 4 (1 death), Deaths from non-notifiable diseases: whooping cough 4, diarrhoea 16. The number of notifications of cases of infectious diseases (77) is the lowest recorded, and has been gradually falling since 1904, when 785 cases were reported. Very few cases of scarlet fever have arisen during the last

three years ; the disease probably exhausted itself during the epidemic of 1904-5 for want of material. During the two years mentioned, 1,145 cases occurred, against 98 cases during the three years 1906-7-8. Some of the enteric fever attacks were thought to be due to the consumption of shell-fish (mussels). Measles was prevalent and reduced the average attendance at the schools to a very low point, but no deaths were recorded from this disease.

Hospital Accommodation, provided for scarlet fever only, at Bull Hill—20 beds and 4 cots. For small-pox a farm house has been converted into an isolation hospital. Cases treated : scarlet fever 12 (2 deaths).

Disinfection. — Washington Lyon's steam disinfectors provided at the hospital.

Water Supply, good, from upland sources.

Sewerage, Scavenging, &c.—Sewage undergoes treatment at two outfall works—at the main works by septic tanks, sprinkler filters, and land filtration, and at the Hoddlesden works by precipitation and filtration. A scheme for improvements at the latter works is under consideration. Flushing at the dead ends of sewers takes place at regular intervals. The Authority carry out scavenging in a satisfactory manner. Over 10,000 tons of refuse were taken to the destructor (Meldrums).

Sanitary Inspection.—Special reports have been submitted to the Health Committee on the sanitary condition of several blocks of property, and a number of cases of overcrowding dealt with. The remaining back-to-back houses are gradually being abolished. A full report on the whole of the schools in regard to lighting and ventilation has been prepared ; numerous recommendations for improvement were made, and these have been adopted and carried out. Bakehouses and slaughter-houses on the whole were found

in a fairly clean condition ; a public abattoir is provided. There is only one common lodging-house, and this is owned and worked by the Corporation. Dairies and cowsheds—under constant supervision—have been very much improved, but the conditions under which cows are kept and milked are often not satisfactory—the proper grooming of the cattle, the cleansing of the udders and teats of the cows, and the hands of the milker are neglected. The sanitation of factories and workshops has been found generally good ; these premises received frequent visits, and 57 defects were discovered. Privy middens do not exist, but there are over 6,000 pail closets ; these are gradually being replaced by the water-carriage system. The Inspectors (Messrs. Marsden and Walsh) report on the sanitary work accomplished, including the service of 493 notices, the abatement of 822 nuisances, 275 smoke observations, &c. Meteorological statistics are appended to the report.

Denton.—(Area in acres, 2,594 ; Estimated Population, 15,983).—*Medical Officer of Health*, F. W. ALLKIN, M.B. ; *Salary*, £40 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24·5	13·4	1·00	0·75	1·43	104
1907	22·2	13·5	1·58	1·13	1·13	96
Mean of 10 years						
1898-1907	25·1	16·0	1·65	1·28	2·41	166
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+2·3	—0·1	—0·58	—0·38	+0·30	+8
<i>Ten Years' Average.</i>	—0·6	—2·6	—0·65	—0·53	—0·98	—62

The infantile death-rate, although slightly above the rate for last year, is, with that exception, the lowest on record

for the district. The birth-rate shows an upward tendency, and is only fractionally below the 10½ years' average.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 11 (3 deaths), scarlet fever 87 (4 deaths), enteric fever 11 (5 deaths), erysipelas 5. Deaths from non-notifiable diseases : whooping cough 3, diarrhoea 1. Referring to the scarlet fever cases, which were mild in character and scattered throughout the district, Dr. Allkin says “no great improvement will be effected till further means of isolating the patients are adopted, it is quite impossible to isolate such cases efficiently in cottage houses, when the nurse, who is generally the mother, mixes with the rest of the household, and inquisitive neighbours are popping in and out.” Whooping cough was fairly prevalent during the first and last quarters of the year, ignorance of parents both as to its infectious character and proper treatment being, in the opinion of the Medical Officer of Health, responsible for the conveyance of the disease and its prolonged presence. Diphtheritic anti-toxin is supplied by the Council free of charge in all necessitous cases.

Hospital Accommodation.—A retaining fee is paid for the use of four beds (two for small-pox) at the Hyde Corporation hospitals. Considering the number of cases notified, only a small proportion received hospital isolation. Cases treated : scarlet fever 6 (1 death), enteric fever 3 (2 deaths).

Disinfection. — No proper appliances. Houses are disinfected with sulphur or formalin. The Council are recommended to seriously consider the advisability of providing apparatus for the disinfection of clothing and bedding.

Water Supply, “abundant and pure,” obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—The method of sewage treatment consists of precipitation tanks, single contact beds,

and land. Owing to complaints from the Mersey and Irwell Joint Committee as to unsatisfactory effluents from the sewage works, extensions of the filter beds are contemplated. Scavenging, carried out by the Council's own staff, is said to give satisfaction. The abolition of "tips," which are described as a "nuisance, and at times dangerous to health," is recommended.

Sanitary Inspection. — House accommodation on the whole is good, the cottages, in nearly all cases, having a sufficiency of open space, and the surroundings are generally clean. During the year 12 houses were condemned, 24 demolished, and 3 made habitable. The sanitary condition of schools is described—"some good, others only fair." Slaughter-houses and dairies and cow-sheds—periodically inspected—were generally found in a satisfactory condition. Legal proceedings were instituted in a case of exposing diseased meat for sale, and a fine of £10 and costs imposed. Inspections of factories and workshops resulted in numerous defective sanitary conveniences being discovered and remedied. The conversion of privies to water-closets is receiving attention, 220 being so altered during the year; 1,300 still remain. Notices served for nuisance abatement numbered 175, and nearly all were complied with. Nineteen smoke observations were taken. The Council are advised to fix upon a time-limit for the emission of black smoke per hour.

Notable sanitary improvements.	Demolition of old property and substitution of well - built houses; conversion of privies to the water-carriage system.
Chief sanitary requirements.	Increased hospital accommodation; a steam disinfector; a refuse destructor, and abolition of tips.

Droylsden.—(Area in acres, 1,010 ; Estimated Population, 12,300).—*Medical Officer of Health*, ANDREW GELLATLY, M.B., to June, 1908, then ANDREW B. HOUSTOUN, M.B., C.M. ; *Salary*, £60.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	28·6	16·9	2·27 ₄	1·30	3·33	176
1907	28·7	15·4	1·62	0·73	3·03	159
Mean of 10 years						
1898-1907	29·4	17·0	2·16	0·95	3·29	168
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—0·1	+1·5	+0·65	+0·57	+0·30	+17
<i>Ten Years' Average.</i> —	0·8	—0·1	+0·11	+0·35	+0·04	+8

The mortality rates are all higher than those of the previous year, whilst the birth-rate remains practically stationary.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 7 (1 death), scarlet fever 47, enteric fever 10 (1 death), erysipelas 8 (1 death). Deaths from non-notifiable diseases : measles 8, whooping cough 7, diarrhœa 11. Strict enquiries were made into the circumstances attending the enteric fever cases, but only at one house could a real cause be discovered—the drinking water being obtained from a surface well into which pig sewage drained directly.

Hospital Accommodation.—By arrangement, 3 beds (1 for small-pox) are available at the Hyde Corporation hospitals. An increase in the accommodation for this district is being considered. Cases treated : diphtheria 1, scarlet fever 8, enteric fever 1.

Disinfection.—No proper appliances yet obtained, but the cost of a steam disinfecter is included in an application to the Local Government Board for a loan. Houses are fumigated with formaldehyde.

Water Supply, of “good” quality, is furnished by the Manchester Corporation.

Sewerage, Scavenging, &c.—The treatment of sewage is by precipitation tanks and single contact beds. The cost of reconstructing the sewage works has exceeded the amount of the loan sanctioned, and a further application has been made to the Local Government Board. The effluent from the works is reported by the Mersey and Irwell Joint Committee to be of an “exceedingly polluting character,” and after considerable pressure the Council have commenced the work of extension. The Joint Committee have also requested that steps be taken to divert into the sewerage system the sewage from certain houses now draining into Gore Brook. The system of tipping refuse “is most objectionable,” and quickly becoming a source of danger to the public health. Dr. Houstoun remarked upon the urgency of a refuse destructor; application for sanction to borrow the necessary money has already been made to the Local Government Board. Handbills have been distributed to all householders asking them to burn animal and vegetable matter, instead of depositing it in the ashpits. The Authority efficiently perform scavenging.

Sanitary Inspection.—The sanitary condition of schools is “excellent,” and bakehouses, dairies, &c., “good.” Six of the 7 defects revealed, as the result of 177 inspections of factories and workshops, were remedied. Sixty-three privy middens underwent conversion to water-closets, leaving 730 of the former still in existence. Notices for the abatement of nuisances were served in 39 cases, affecting 209 houses.

Legal proceedings were necessary in four cases. Smoke observations numbered 236, the continued activity in this direction having good results.

Meteorological statistics are appended to the report.

Notable sanitary improvements.	Extension and alteration of sewage works; alteration of insanitary property; number of combined drains relaid.
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Chief sanitary requirements.	Provision of refuse destructor; steam disinfectors; sludge-pressing plant; increased hospital accommodation; renewal of large number of defective drains; paving of private streets.
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Eccles (Borough).—(Area in acres, 2,057; Estimated Population, 40,000).—*Medical Officer of Health*, W. M. HAMILTON, M.D., D.P.H.; *Salary*, £200.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27.0	13.8	1.55	0.75	2.92	119
1907	26.1	15.0	1.23	1.00	2.94	118
Mean of 10 years						
1898-1907	26.4	15.4	2.07	1.04	2.61	139

Increase or Decrease on—

<i>Previous Year</i>	+0.9	—1.2	+0.32	—0.25	—0.02	+1
<i>Ten Years' Average.</i>	+0.6	—1.6	—0.52	—0.29	+0.31	—20

A slightly increased birth-rate is accompanied by a decrease in the death-rate. The ward birth-rate varied

from 32·5 in Winton to 31·3 in Barton, 31·0 in Irwell, 28·1 in Patricroft, 21·8 in Eccles, and 15·7 in Monton and Park ; and the death-rates were : Monton and Park 8·3, Eccles 12·2, Barton and Patricroft each 15·4, Winton 15·6, and Irwell 16·2. A large amount of time has been devoted to the question of infantile mortality, and good work continues to be done by the Ladies' Health Society, and the two health visitors, in giving instruction as to infant feeding and clothing, and in every way encouraging and educating the mothers in their duties to their offspring. As a means of reducing this mortality Dr. Hamilton says what remains to be done is—“to make education in infant nurture and hygiene compulsory in all elementary schools, to prohibit the employment of female children under the age of 15 in factories, and to enforce the absence of all mothers from work six months after confinement.” The Notification of Births Act, 1907, has been adopted by the Authority.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 31 (5 deaths), scarlet fever 180 (7 deaths), enteric fever 13 (4 deaths), erysipelas 7, continued fever 1 death, but no case notified. Deaths from non-notifiable diseases : measles 18, whooping cough 15, diarrhoea 12. Diphtheritic anti-toxin is supplied to medical practitioners free of charge. During the early part of the year measles was very prevalent and the mortality high, the whole of the deaths (18) occurring during the months of April, May, and June. Dr. Hamilton remarks that “though preventive measures have largely failed to reduce the prevalence of measles, education of parents by leaflets, their instruction by Inspectors, health visitors, and other means, will largely reduce the mortality from this disease. There is an unfortunate legacy of contempt for measles, handed down from mothers and grandmothers, which renders the mothers of the present day careless of this disease.” Great assistance is given to the Health Department by school teachers giving early information of the presence

of disease, the following notifications being received : measles 777, chicken-pox 74, whooping cough 36, mumps 2, eczema 20, ringworm 14, ophthalmia, sore throat, influenza, &c., 24. The voluntary notification of phthisis, which has been in force since 1902, is said to have proved a failure, and the Medical Officer of Health is of opinion "that no effective progress will be made in combating this disease until compulsory notification is made general."

Hospital Accommodation.—By payment of a subsidy of £220 a year and a uniform rate of 30s. per week per patient for maintenance, 26 beds are reserved for the use of this district at the Salford Corporation hospitals. Cases treated : diphtheria and membranous croup 24 (3 deaths), scarlet fever 54 (5 deaths), enteric fever 9 (4 deaths), erysipelas 1.

Disinfection.—Steam apparatus (Manlove's) erected at the sewage farm. One school building and 326 rooms were fumigated, and 196 lots of bedding disinfected.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—The method of sewage treatment consists of settling tanks, single contact beds, and land. Storm-water filters are in course of construction. The number of drains uncovered for examination was 105, and the drain test (smoke or water) was applied on 1,024 occasions. Scavenging is said to be satisfactorily performed under the superintendence of the Chief Sanitary Inspector. Refuse is taken to the destructors erected at the sewage works.

Sanitary Inspection.—As the result of inspection of the district much overcrowding of dwellings was discovered, 32 notices were required, and in one case legal proceedings had to be instituted. It was also necessary to take legal proceedings in the case of a dirty house, this condition of premises being more common than formerly; a fine of 10s. and costs was imposed. The sanitation of schools is, on the whole, good. At the bakehouses, several instances of want

of limewashing were noted. Slaughter-houses and common lodging-houses — under constant supervision — were kept in good condition. Houses let in lodgings received 71 visits. Dairies, cowsheds, and milkshops were thoroughly inspected during the year and found satisfactory. Inspections of factories and workshops amounted to 282; 45 defects were discovered, and subsequently remedied. The examination of 48 canal boats revealed 4 infringements of the Acts and regulations. Privies abolished during the year numbered 363, and 651 water closets were provided in lieu thereof. The Chief Inspector (Mr. Laskey) gives details of a vast amount of sanitary work accomplished. Nuisances remedied amounted to 4,655, notices served 230, and in 11 instances legal proceedings were instituted. Smoke observations numbered 40, four being followed by successful legal proceedings.

Notable sanitary improvements. A large number of privies and ashpits abolished; 563 old houses re-drained.

Failsworth.—(Area in acres, 1,072; Estimated Population, 15,100).—*Medical Officer of Health*, G. S. LESLIE, M.B.; *Salary*, £75 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25·6	16·0	1·39	0·79	2·98	136
1907	28·2	14·6	0·73	1·20	3·60	113
Mean of 10 years						
1898-1907	29·3	16·9	1·84	1·20	2·91	157
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—2·6	+1·4	+0·66½	—0·41	—0·62	+23
<i>Ten Years' Average.</i> —	3·7	—0·9	—0·45	—0·41	+0·07	—21

The infant rate, although considerably higher than in

1907, is, with the exception of that year, the lowest recorded since 1894. The Council have distributed pamphlets on the feeding and care of infants, through the agency of medical practitioners and midwives. The birth-rate is the lowest ever experienced in this district.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 14 (5 deaths), scarlet fever 27 (1 death), enteric fever 9 (2 deaths), erysipelas 5 (2 deaths), continued fever 1. Deaths from non-notifiable diseases: measles 8, whooping cough 1, diarrhoea 4. The Council supply anti-toxin to medical practitioners free of charge, but this arrangement has not been so largely taken advantage of as might have been expected.

Hospital Accommodation.—An arrangement exists with the Corporation of Oldham for the use of the Strinesdale (small-pox) and Westhulme hospitals. Cases treated: scarlet fever 6, enteric fever 3.

Disinfection.—No apparatus. Rooms fumigated with sulphur or formalin numbered 62.

Water Supply.—Oldham Corporation provide a wholesome and ample supply. A few houses in the lower part of the district are supplied by Manchester.

Sewerage, Scavenging, &c.—The works for the treatment of sewage consist of precipitation tanks, percolation beds, sedimentation tanks, and straining filters. The scheme of extension at the outfall works has now been completed. The drainage system in connection with 88 houses was reconstructed, and the drains of 9 houses disconnected from the water-courses and diverted into the Council's sewer. During the year the question of paving and sewerage a large number of streets and passages has engaged the attention of the Council; plans have been prepared, and it is

expected that this work will shortly be commenced. The Council's employees remove house refuse, the system continuing to give satisfaction.

Sanitary Inspection.—In the case of 28 houses reported upon by the Local Government Board's Inspector as being very insanitary, legal proceedings had to be taken, as the principal defects remained unaltered. The decision of the Court was, however, in favour of the owners. One house was closed as unfit for habitation. At one or two of the schools the playgrounds require attention. Bakehouses, slaughterhouses, cowsheds, &c., are satisfactory. The various milkshops in the district have been visited, and special instructions given as to the necessity of providing suitable vessels, with a view to preventing contamination of the milk. In 140 inspections paid to factories and workshops, absence of closet accommodation was noted in two instances; this was subsequently provided. The number of privy middens has been reduced to 359 by the conversion of 102 to the water-carriage system; twenty-two pail closets were similarly altered. Notices served numbered 72, legal proceedings (under the Housing of the Working Classes Act) 28, and inspections of canal boats 36. In February the Council adopted a new time-limit for the emission of black smoke. Six notices for smoke nuisance abatement were served, successful legal proceedings being instituted against one firm.

Notable sanitary improvements.	Conversion of privies and pails to w.c.'s; substitution of dust boxes for middens and ash-pits; reconstruction of house drains.
Chief sanitary requirements.	Abolition of privy middens; paving of streets and back passages.

Farnworth.—(Area in acres, 1,504 ; Estimated Population, 27,000).—*Medical Officer of Health*, ALFRED KERSHAW, M.D. ; *Salary*, £40 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·9	16·6	3·55	1·29	3·00	206
1907	27·0	15·7	2·33	0·85	3·25	150
Mean of 10 years						
1898-1907	28·2	18·1	3·05	1·00	3·03	217

Increase or Decrease

on—

<i>Previous year</i>	+0·9	+0·9	+1·22	+0·44	—0·25	+56
<i>Ten Years' Average.</i>	—0·3	—1·5	+0·50	+0·29	—0·03	—11

With the exception of the respiratory death-rate all the mortality averages are in excess of those obtained in the previous year. The decline in the infant mortality recorded in the two preceding years has unfortunately not been maintained, and this rate once more exceeds 200 per 1,000 births. Only twice during the last 14 years (1906 and 1907) has it fallen below 200. The increase this year is due mainly to the large number of deaths from diarrhoea, 69 against 24 in 1907. The Notification of Births Act has been adopted, and a health visitor appointed.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 9 (3 deaths), scarlet fever 84 (4 deaths), enteric fever 45 (4 deaths), erysipelas 12 (1 death), puerperal fever 3 (2 deaths), continued fever 1 death. Deaths from non-notifiable diseases : measles 1, whooping cough 14, diarrhoea 69. Scarlet fever caused less than one-half the number of cases in 1907, but enteric fever had a slightly greater prevalence. Measles, which last year contributed 32

deaths, only gave rise to one fatality, but, as mentioned above, diarrhoea largely prevailed and had a serious mortality. Dr. Kershaw, referring to phthisis, says it is desirable that the notification of this disease should become general.

Hospital Accommodation provided jointly with Little Hulton and Little Lever. For small-pox an arrangement has been made with the Bury, &c., Joint Hospital Board for the treatment of cases at their hospital at Ainsworth. Cases treated : diphtheria 4 (1 death), scarlet fever 53 (3 deaths), enteric fever 38.

Disinfection.—Steam apparatus at the hospital available.

Water Supply obtained from the Bolton Corporation.

Sewerage, Scavenging, &c.—Sewage is treated at two outfall works : Hall Lane, by septic tanks and streaming filters ; and at Lark Hill, by settling tanks, percolating beds, and land. Good progress has been made with the new filters at the Hall Lane works, and the sludge beds are completed. The Authority carry out scavenging. A refuse destructor is in course of construction.

Sanitary Inspection. — Bakehouses, slaughter-houses, dairies and cowsheds, are on the whole well kept, and as a rule nothing more than verbal notice is required to ensure the requisite cleanliness, &c. Factories and workshops received 137 visits of inspection ; these premises are clean, and in the majority of cases comply with the requirements. Ninety-seven midden privies were converted to the water-carriage system ; with a view to reducing the high infantile mortality greater activity in this direction is desirable. The Inspector (Mr. Marshall) served 77 preliminary and 62 statutory notices, and 760 nuisances were dealt with. In two instances legal proceedings had to be instituted. Smoke observations numbered 22.

Fleetwood.—(Area in acres, 2,510 ; Estimated Population, 15,198).—*Medical Officer of Health*, W. H. ROBINSON, M.R.C.S. ; *Salary*, £80 (including £20 for the Port.)

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	31·7	14·1	1·71	0·85	2·56	103
1907	28·1	11·5	0·27	0·68	2·79	113
Mean of 10 years						
1898-1907	30·2	14·2	1·80	0·59	2·31	135
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+3·6	+2·6	+1·44	+0·17	—0·23	—10
<i>Ten Years' Average.</i>	+1·5	—0·1	—0·09	+0·26	+0·25	—32

The infant mortality is the lowest ever recorded, and the birth-rate the highest since 1903.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 2, scarlet fever 57 (2 deaths), enteric fever 21 (5 deaths), erysipelas 4 (2 deaths). Deaths from non-notifiable diseases : measles 5, whooping cough 6, diarrhœa 8. Scarlet fever was prevalent in every month except January. Dr. Robinson again expresses the opinion that some of the outbreaks were attributed to “return” cases from hospital, especially so where 4 cases occurred in the same street within fourteen days of the return of a case, the person discharged being a friend or relation of those attacked. A number of the cases of enteric fever followed in a remarkable manner the opening of old drains to make manholes and flushing chambers for the purpose of cleansing ; the outbreaks occurred in houses in close proximity to the opening. It is curious to relate that none of the men working on the drains contracted fever. Respecting the absence of puerperal fever, the Medical Officer says “the certified midwives seem to understand their work fairly well, and are generally clean and attentive.”

Hospital Accommodation.—The hospitals at Elswick (Fylde, Preston, and Garstang), and Moss Side (Fylde Joint), are respectively available for small-pox and ordinary infectious diseases. Cases treated: diphtheria 1, scarlet fever 49 (1 death), enteric fever 13 (2 deaths).

Disinfection.—Goddard, Massey & Warner's steam apparatus provided. Houses fumigated with formalin or sulphur numbered 81.

Water Supply furnished by the Fylde Water Board from their Grizedale reservoirs.

Sewerage, Scavenging, &c.—Sewage is discharged into the Irish Sea. During the year, manholes and flushing chambers were provided, and, where necessary, old sewers were cleaned and relaid. The Authority efficiently perform scavenging. A refuse destructor is in operation at the electric works.

Sanitary Inspection. — “House accommodation is insufficient for the present need, but many new houses are now in course of erection.” Schools, bakehouses (2 underground), dairies, &c., all give satisfaction. A public abattoir is in use. Factories and workshops were inspected on 110 occasions, resulting in 30 defects being remedied. One privy midden (of which 13 now remain) was converted to a water closet. Notices served numbered 1,285, nuisances remedied 344, smoke observations 22, &c.

Notable sanitary improve-	Construction of manholes and
ments.	flushing chambers in old drains.

The Port Sanitary Authority.—“The health of those arriving at the Port has continued good, and no case of infectious disease occurred.” The hospital, kept in constant readiness for the reception of patients, has been moved about a quarter of a mile from the dock to make room for factories. The Port Sanitary Authority are still in communication with the Commissioners of H.M. Customs with a view

to fixing the boarding station at or near the mooring station. The Inspector made 231 visits to vessels, discovering 53 defects, but verbal notices to the captains concerned sufficed to have these corrected.

Formby.—(Area in acres, 5,427; Estimated Population, 6,342).—*Medical Officer of Health*, FRANCIS CARTER, L.R.C.P.E.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	18.4	8.2	0.63	0.94	1.73	68
1907	17.0	11.0	0.63	0.63	2.83	55
Mean of 3 years						
1905-1907	18.9	10.6	0.74	0.80	1.74	72

Increase or Decrease on—

<i>Previous Year</i>	+1.4	—2.8	...	+0.31	—1.10	+13
<i>Three Years' Average</i> —	0.5	—2.4	—0.11	+0.14	—0.01	—4

A very low death-rate is the chief feature of the statistics. The mortality of children under 1 year of age is higher than 1907, but slightly below the 3 years' average.

Infectious Diseases.—Cases notified: diphtheria 1, scarlet fever 11, enteric fever 8 (1 death), erysipelas 6, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: whooping cough 2, diarrhoea 1. In January the Holy Trinity schools were closed on account of influenza and whooping cough, while in July similar action was necessary in the case of St. Peter's schools, owing to the prevalence of the last-mentioned disease. Diphtheritic anti-toxin is supplied free of charge to medical practitioners.

Hospital Accommodation.—Arrangements have now been made with the Bootle Corporation for the use of their hospital for all purposes. Cases treated: scarlet fever 4.

Disinfection.—The Bootle super-heated steam apparatus (Washington Lyon's) available.

Water Supply obtained from the Southport Water Board. It is of "good" quality, though very hard.

Sewerage, Scavenging, &c.—Sewage flows chiefly into cesspools, but house connections to the new sewer are now being proceeded with, the sewage running into septic tanks and thence to sea outfall. When the scheme is finished Dr. Carter feels sure that the general health of the community will be much improved. The work of scavenging is carried out partly by the Authority and partly by contract.

Sanitary Inspection.—In six streets a house-to-house inspection has been made. Three cases of gross overcrowding of "holiday children," housed by occupiers of small dwellings, were discovered. Steps have been taken to prevent a recurrence of this complaint, the Council being supplied with a list of persons receiving such children, so that the premises may be inspected. "Vast improvements" in the shippens and dairies have been carried out. Factories and workshops received 138 inspections, 4 defects being detected. The privy middens now number 609, four having been converted to pails. The Inspector (Mr. Pattison) served 247 notices and secured the abatement of 1,146 nuisances; in one instance legal proceedings were necessary to enforce compliance.

Notable sanitary improvements.	Inauguration of sewerage system resulting in reduction of number of cesspools; better structural condition of many dairies.
Chief sanitary requirements.	Connection of house drains to new sewer; systematic method of emptying cesspools.

Fulwood.—(Area in acres, 2,116 ; Estimated Population, excluding Public Institutions, 4,130).—*Medical Officer of Health*, JOHN GARTH, L.R.C.P.I. ; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·5	11·3	0·48	nil.	1·21	70
1907	17·6	6·7	nil.	0·24	1·24	56
Mean of 10 years						
1898-1907	20·6	11·3	0·48	0·53	1·88	74
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+2·9	+4·6	+0·48	—0·24	—0·03	+14
<i>Ten Years' Average.</i> —	0·1	...	...	—0·53	—0·67	—4

The population of the public institutions in this district, viz., the workhouse, barracks, orphanage, blind home, poor-law school, and sisters' home is estimated at 2,822, and as in preceding years, in calculating the various averages, the deaths in these places (209 in 1908) are excluded.

Infectious Diseases.—Cases notified : diphtheria 1, scarlet fever 8, enteric fever 6 (1 death), erysipelas 8, puerperal fever 1. From non-notifiable diseases : diarrhoea 1 death. Two of the enteric fever cases were imported, and one was thought to be due to the consumption of tinned fruit.

Hospital Accommodation for small-pox is provided at Elswick jointly with Fylde, Preston, and Garstang, and for ordinary infectious diseases at the joint hospital (Preston, Fulwood, and Longridge) situate in this district. Cases treated : scarlet fever 2, enteric fever 1.

Disinfection.—Hot-air chamber provided.

Water Supply, good quality, obtained from Bleasdale Fells.

Sewerage, Scavenging, &c.—Sewage undergoes treatment in septic tanks, sprinkler filters, sand filters, and on land. Additional sludge lagoons have been constructed, and other improvements carried out. Scavenging as performed by the Authority gives satisfaction, but some difficulty is experienced in disposing of the refuse.

Sanitary Inspection.—Bakehouses and slaughter-houses are clean, and dairies and cowsheds fairly well kept. One of the schools (Cadley) is in a very dilapidated condition. Five privies were converted to water closets. Only one notice was required for nuisance abatement.

Chief sanitary require-	Conversion of privy middens ;
ments.	flagging of back yards.

Golborne.—(Area in acres, 1,679 ; Estimated Population, 7,000).—*Medical Officer of Health*, JAMES DOBB, L.R.C.P. ; *Salary*, £45.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	34·2	16·7	2·28	0·85	2·71	120
1907	28·8	18·2	2·85	1·00	1·71	163
Mean of 10 years						
1898-1907	32·9	17·3	3·06	0·58	3·06	162
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+5·4	—1·5	—0·57	—0·15	+1·00	—43
<i>Ten Years' Average.</i>	+1·3	—0·6	—0·78	+0·27	—0·35	—42

The birth-rate is the highest recorded for some years,

whilst the infantile mortality, with one exception (1902), is the lowest recorded for the district.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 37 (9 deaths), scarlet fever 4 (1 death), erysipelas 6, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: whooping cough 1, diarrhœa 5. Diphtheria was prevalent throughout the year, although it never assumed epidemic proportions. Most of the cases were of a very mild type, and it is stated that the majority occurred in the vicinity of the Millingford Brook and the sewage works belonging to an adjoining district. Anti-toxin is supplied free of charge.

Hospital Accommodation.—The Leigh, &c., joint hospital is available. Case treated: scarlet fever 1 (fatal).

Disinfection.—No apparatus.

Water Supply ample and good, obtained from the reservoir of the Ince-in-Makerfield Council, situate in this district.

Sewerage, Scavenging, &c.—Sewage is treated at two outfall works—Wigan Road and Edge Green—by settling tanks and streaming filters. The new works at Edge Green have been completed and put into operation. The Authority undertake scavenging.

Sanitary Inspection. — Bakehouses, slaughter-houses, lodging-houses, dairies and cowsheds, are all described as satisfactory. Factories and workshops appear to be well conducted, as no serious defects were noted on the 39 visits of inspection. Although there are 601 privy middens no conversions took place. The Inspector served 77 notices, and 76 nuisances were abated.

Notable sanitary improve-	Enlargement of main outfall
ment.	works.

Gorton.—(Area in acres, 1,147; Estimated Population, 40,000).—*Medical Officer of Health*, A. W. MARTIN, L.R.C.P., D.P.H.; *Salary*, £120.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	32·5	16·4	2·55	0·95	2·95	163
1907	30·9	15·5	1·73	1·33	3·49	144
Mean of 10 years						
1898-1907	34·5	18·7	3·49	1·27	3·53	188
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·6	+0·9	+0·82	—0·38	—0·54	+19
<i>Ten Years' Average.</i> —	2·0	2·3	0·94	0·32	0·58	25

The birth-rate shows an increase as compared with the previous year, and the same remark applies to the mortality averages, with the exception of the phthisis and respiratory rates. The ward death-rates were as follow :—St. James' 17·8, Town Hall 17·6, and Abbey Hey 13·4, and the epidemic death-rates were 3·2, 2·7, and 1·7 respectively.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 25 (3 deaths), scarlet fever 134 (5 deaths), enteric fever 26 (8 deaths), erysipelas 23, puerperal fever 11 (3 deaths). Deaths from non-notifiable diseases: measles 15, whooping cough 14, diarrhoea 57. A special report to the Local Government Board on the prevalence of diarrhoea during the summer and autumn months states that there were 43 deaths of infants under one year of age from diarrhoeal diseases. Investigation into the closet accommodation of the houses in which the deaths occurred revealed the fact that 35 of the deaths were in houses provided with privy middens, 5 deaths in houses in which the privy middens had been altered to water closets but which were surrounded with

privy middens, and 3 deaths in water closet houses surrounded with other houses similarly supplied. Referring to the prevalence and excessive mortality from measles and whooping cough, Dr. Martin says "prohibiting attendance at school under 5 years of age, fewer scholars in each class, larger and better ventilated class-rooms, notification of measles and whooping cough to the Local Authority, and the treatment of severe cases in isolation hospitals, will have to be some of the measures adopted in the future to combat these diseases efficiently." Diphtheritic anti-toxin is supplied to medical practitioners free of charge by the Council.

Hospital Accommodation.—From January to October the local small-pox hospital was utilized for the treatment of scarlet fever and enteric fever cases, and after that date, by arrangement, the Manchester and Hyde Corporation hospitals became available. Cases treated: diphtheria and membranous croup 5 (2 deaths), scarlet fever 48 (3 deaths), enteric fever 11 (1 death), erysipelas 2, puerperal fever 5.

Disinfection.—A portable formaldehyde apparatus at the hospital is available. During the year 192 rooms were disinfected by chlorine, sulphur, or formaldehyde.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—The treatment of sewage is by precipitation tanks and single contact beds. The Mersey and Irwell Joint Committee have again had occasion to call the attention of the Authority to the offensive condition of Gore Brook, and steps are being taken to obviate a repetition of this nuisance. Scavenging, in the hands of the Authority, is satisfactorily performed. A refuse destructor is provided.

Sanitary Inspection.—Eighteen houses, condemned as unfit for human habitation, have been put into a proper state of repair. The sanitary condition of schools is said to be "fairly good." Bakehouses received particular attention;

in two instances alterations and improvements were effected in the lighting, ventilation, and drainage. Slaughter-houses described as "good," and dairies and cowsheds as in "fair condition." Seizures of food unfit for human consumption were made on several occasions. Ninety-five visits of inspection were paid to factories and workshops, and fourteen canal boats were examined. Two hundred and fifty-eight privies underwent conversion to the water-carriage system, but 2,216 still remain. The Inspector (Mr. Cheetham) served 150 notices, secured the abatement of 99 nuisances, took 10 smoke observations, &c.

Notable sanitary improvement.	Conversion of privy middens to water closets. (Increased activity in this direction desirable.)
Chief sanitary requirements.	Paving and draining of many streets and back passages.

Grange-over-Sands.—(Area in acres, 1,540; Census Population, 1,993).—*Medical Officer of Health*, GEORGE H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	12·0	16·5	nil.	2·00	3·51	41
1907	8·5	14·0	0·50	2·00	1·50	176
Mean of 10 years						
1898-1907	11·3	11·9	0·43	1·97	1·54	95
<i>Increase or Decrease</i>						
on—						
<i>Previous Year</i>	+3·5	+2·5	—0·50	...	+2·01	—135
<i>Ten Years' Average.</i>	+0·7	+4·6	—0·43	+0·03	+1·97	—54

■ ■ The death-rate for the year under review is the highest recorded, but it may be mentioned that 13 of the deaths

(33 in all) were of persons above 70 years of age, the mean age of the thirteen being 77·5 years. Five deaths took place amongst "visitors," and if these were deducted, the rate would equal 14·0 per 1,000. No deaths were due to the scheduled infectious diseases, and only one fatality occurred amongst children under the age of one year.

Infectious Diseases.—Cases notified: scarlet fever 7, enteric fever 1. Deaths from non-notifiable diseases, nil. In May it was deemed advisable to close the elementary school on account of an outbreak of scarlet fever.

Hospital Accommodation.—During the year negotiations were entered into with the Ulverston Joint Hospital Board, and also with the Kendal Corporation, as to the terms on which cases of infectious disease from this district would be treated, and eventually an agreement was made with the latter Authority, accessibility and economy being mainly the deciding factors. Prior to this arrangement 3 cases of scarlet fever had been removed to the Ulverston Joint Board's hospital at High Carley.

Disinfection.—No apparatus. Thirteen rooms fumigated with sulphur.

Water Supply.—Obtained from a reservoir situated in Newton-in-Cartmel, good in quality, and ample in quantity. The Council has decided to become the owners of the gathering grounds with a view to safeguarding the supply of water against any possibility of pollution.

Sewerage, Scavenging, &c.—Sewage is discharged into the sea after tank subsidence. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—Regular and systematic inspection of the district is carried out. Bakehouses, the only slaughter-house, workshops, and dairies and cowsheds are well kept.

Four midden privies were converted to water closets and three cesspools closed. A public mortuary has been provided. Two notices were served calling for nuisance abatement. In one instance legal proceedings had to be instituted before the requisite work was carried out.

Records of sunshine and rainfall are appended to the report.

Great Crosby.—(Area in acres, 1,907; Estimated Population, 12,663).—*Medical Officer of Health*, W. S. LIMRICK, L.R.C.P.E.; *Salary*, £60.

Vital Statistics

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	19·2	10·7	0·39	0·31	2·13	98
1907	19·6	9·3	0·68	0·51	1·70	64
Mean of 10 years						
1898-1907	19·7	10·6	0·75	0·62	1·78	101
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—0·4	+1·4	—0·29	—0·20	+0·43	+34
<i>Ten Years' Average</i>	—0·5	+0·1	—0·36	—0·31	+0·35	—3

A further slight reduction in the birth-rate is recorded—the lowest since 1902. The general and infant death rates are rather higher than in the previous year.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 12, scarlet fever 37 (1 death), enteric fever 11 (1 death), erysipelas 8. Deaths from non-notifiable diseases: measles 2, diarrhoea 1. In December an infant school was closed in consequence of an outbreak of mumps and chicken-pox.

Hospital Accommodation.—An agreement, which has proved “highly satisfactory,” exists with the Corporation of Liverpool for the reception of cases of infectious disease. Cases treated : diphtheria 4, scarlet fever 7, enteric fever 2.

Disinfection.—Dry heat stove at the Council’s dépôt extensively used, 874 articles being disinfected. Ninety rooms were fumigated with sulphur.

Water Supply.—Obtained from the Liverpool Corporation. “The service is constant, and the quality excellent.”

Sewerage, Scavenging, &c.—Sewage flows into the sea. Drains tested with smoke numbered 455. “The flushing of main sewers is done in a regular and systematic manner throughout all periods of the year.” House drains are also flushed frequently, particular attention being paid to the smaller or cottage property. Owing to several complaints as to foul smells from the manholes in the neighbourhood of York Road, the whole of the drains and sewers had to be re-laid. The work of scavenging is carried out in a most efficient manner by the Council’s own staff.

Sanitary Inspection.—No action under the Housing of the Working Classes Act was found necessary. The revised regulations affecting dairies and cowsheds came into force in July; the condition of these premises is “very good.” One case of anthrax was reported, and the cowshed concerned was thoroughly disinfected and cleansed. Eighty-three inspections of factories and workshops brought to light 7 defects. There were 4 conversions of privy middens to w.c.’s. Notices served by the Inspector (Mr. Wilson) amounted to 216. “Many” smoke observations were made.

Notable sanitary improvements.	Proper drainage of York Road and adjoining streets; cowshed regulations became operative
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Great Harwood.—(Area in acres, 2,868 ; Estimated Population, 13,500).—*Medical Officer of Health*, JOHN PATCHETT, L.R.C.P.E. ; *Salary*, £70.

Vital Statistics.

	PER 1,000 OF POPULATION.					
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate	Rate of Deaths under 1 year to 1,000 Births.
1908	22·2	13·1	1·11	0·44	2·37	130
1907	22·7	12·7	0·74	0·96	2·37	104
Mean of 10 years						
1898-1907	25·1	13·5	1·29	0·81	2·26	142
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—0·5	+0·4	+0·37	—0·52	...	+26
<i>Ten Years' Average.</i> —	2·9	—0·4	—0·18	—0·37	+0·11	—12

The birth-rate, which declined fractionally, is the lowest on record for the district, whilst the infant rate shows a decided increase as compared with the previous year. Dr. Patchett is of opinion that the chief cause of infantile mortality is the want of proper care during early life, and he deplores the fact that the system of carrying children out in the early hours of the morning to be nursed, and brought back again at night, still continues.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 17 (6 deaths), scarlet fever 81 (2 deaths), enteric fever 8 (2 deaths), erysipelas 15, puerperal fever 1. Deaths from non-notifiable diseases : diarrhoea 5. Outbreaks of infectious disease were more numerous than in the previous year. In the absence of an infectious diseases hospital, every possible precaution was taken to prevent further spread.

Hospital Accommodation.—Nil.

Disinfection.—No proper apparatus. Houses fumigated with formalin numbered 119.

Water Supply, very good, obtained from the Dean Clough reservoir of the Accrington and District Water Board, which is situated in this district.

Sewerage, Scavenging, &c.—Sewage undergoes treatment by continuous precipitation and irrigation at the Clayton-le-Moors and Great Harwood joint works. A scheme, estimated to cost about £1,800, has been prepared for sewerage of the Norden Brook district. The removal of nightsoil, refuse, &c., and the scavenging of the district has again been satisfactorily performed by the Council's employees.

Sanitary Inspection.—The sanitary condition of schools is, on the whole, "fairly satisfactory." At one of the schools the closets are said to be of an "indifferent type, and somewhat defective." Bakehouses and slaughter-houses are described as satisfactory. A public abattoir is provided. Dairies and cowsheds generally are kept in a cleanly state; improvements have been carried out at some of the farms, but a number still require more air space, light, and ventilation, and many of the farm-yards and surroundings require paving. Seventy-eight inspections of factories and workshops revealed 5 defects, and these were subsequently remedied, and a number of sanitary conveniences were erected at certain mills. Nuisances abated amounted to 655; notices served, 84. Twenty-seven smoke observations were taken.

Notable sanitary improvements.	About 500 yards of defective sewers relaid; provision of sanitary conveniences at some of the mills.
Chief sanitary requirements.	Infectious diseases hospital; steam disinfectors; refuse destructor.

Haslingden (Borough).—(Area in acres, 8,196 ; Estimated Population, 19,116).—*Medical Officer of Health*, J. HINDLE, L.R.C.P.E. ; *Salary*, £75.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·0	14·2	0·41	1·09	2·61	138
1907	20·5	15·7	0·88	0·78	3·45	145
Mean of 10 years						
1898-1907	21·4	15·5	1·61	0·88	3·08	153
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—0·5	—1·5	—0·47	+0·31	—0·84	—7
<i>Ten Years' Average.</i> —	1·4	—1·3	—1·20	+0·21	—0·47	—15

With the exception of the phthisis rate the mortality averages presented by Dr. Hindle compare favourably with the rates of the preceding year, the epidemic death-rate being below any previously recorded for the district.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 26 (2 deaths), scarlet fever 46, enteric fever 13 (1 death), erysipelas 10. Deaths from non-notifiable diseases : whooping cough 3, diarrhoea 2. Diphtheria was prevalent in the first quarter of the year, when 18 cases occurred. The scarlet fever notifications were spread over the whole year.

Hospital Accommodation.—Provision for small-pox only.

Disinfection.—Steam apparatus provided at the town's yard. Fifty-eight houses were fumigated, and disinfection of the day schools carried out.

Water Supply good, obtained from the Bury and District Joint Water Board. By the completion of a new main and

reservoir it is hoped the deficiency of supply, regarding which complaint was made in the higher parts of the district, will now be remedied.

Sewerage, Scavenging, &c.—Sewage receives treatment at the joint outfall works at Ewood Bridge, the method being precipitation tanks, percolating beds, and land. On two occasions the Mersey and Irwell Joint Committee have found it necessary to draw attention to unsatisfactory effluents from these works. The Authority carry out scavenging in a satisfactory manner. A refuse destructor is in course of erection.

Sanitary Inspection.—The sanitary condition of schools is said to be “good,” and bakehouses are kept in good order. Alterations have been carried out at some of the slaughterhouses, but the general condition of these premises is described as “not satisfactory.” The Medical Officer of Health remarks “until a public abattoir is provided we shall have to remain in our present unsatisfactory and chaotic state.” Lodging-houses are said to be clean and, on the whole, well conducted, but as in previous reports attention is again called to the want of proper means of escape in case of fire. Active steps are now being taken with regard to dairies and cowsheds, which, although “subject to regulations,” had not previously been inspected; want of light and ventilation are the chief sanitary defects noted. Inspections of factories and workshops resulted in 3 defects being remedied. Conversion of pail closets to the water-carriage system is steadily progressing, 108 having been so altered during the year; 1,900 of the former still remain. The Inspector (Mr. Hoyle) served 320 notices and secured the abatement of 128 nuisances.

Notable sanitary improve-	Provision of a refuse destructor.
ment.	

Haydock.—(Area in acres, 2,411; Estimated Population, 9,950).—*Medical Officer of Health*, ARTHUR DOWLING, L.R.C.P. (Edin.); *Salary*, £60.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	38·9	14·2	2·31	0·60	2·21	128
1907	31·2	13·8	3·45	1·21	2·84	133
Mean of 10 years						
1898-1907	38·1	16·3	3·42	0·76	2·84	151
<i>Increase or Decrease</i>						
on—						
<i>Previous Year</i>	+7·7	+0·4	—1·14	—0·61	—0·63	—5
<i>Ten Years' Average.</i>	+0·8	—2·1	—1·11	—0·16	—0·63	—23

A decided increase in the birth-rate as compared with last year is accompanied by a decline in all the mortality averages, with the exception of the death-rate, and the latter rate is only fractionally above that of 1907, when it was the lowest ever recorded for the district. The Medical Officer of Health strongly recommends the adoption of the Notification of Births Act, 1907, and urges the Council to consider the appointment of a health visitor.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 10, scarlet fever 32 (1 death), enteric fever 12 (2 deaths), erysipelas 13. Deaths from non-notifiable diseases: measles 3, diarrhoea 17. The majority of the scarlet fever cases occurred during the last two months of the year, and owing to the crowded state of the Borough Sanatorium at St. Helens (where cases are treated from this district) endeavours had to be made to isolate as many of the patients as possible in their own homes. Fortunately the cases proved of a mild type. Referring to the cases of enteric fever, Dr. Dowling states “no special insanitary conditions

were found to account for any of the cases, but outbreaks of this disease may always be expected after a hot autumn with a deficient rainfall, in areas where the existence of privy middens causes the surrounding soil to become so polluted as to form a breeding ground for the germs of the disease." With a view to preventing, or at least diminishing, the number of cases of infectious disease, the Medical Officer of Health again recommends the abolition or the bringing up to modern standards of all old privy middens and ashpits, the drainage and making good of back-yards and passages, and the provision of suitable receptacles for house refuse and garbage. Owing to the prevalence of measles, affecting principally the children attending a school in East Ward, closure was resorted to. The voluntary notification of phthisis is invited. The arrangement made for the examination of pathological specimens has proved a valuable aid to diagnosis.

Hospital Accommodation.—A retaining fee—minimum £120 per annum—is paid for the use of 12 beds at the St. Helens Borough sanatorium, and the Old Whint hospital is available for small-pox. Cases treated: scarlet fever 17 (1 death), enteric fever 12 (2 deaths).

Disinfection.—By arrangement the steam apparatus at St. Helens is available.

Water Supply, abundant, and of good quality, is obtained from the Liverpool Corporation reservoirs at Rivington. In cases of emergency a supply can be obtained from the Lyme Pits, Haydock.

Sewerage, Scavenging, &c.—The sewage of the eastern area of the district is treated at Wicken Hedge, the recently completed works consisting of a detritus tank, septic tank, bacteria bed, &c. For the remainder of the district the sewers at present discharge into watercourses, but the Council are carrying out a sewerage scheme with outfall works, now nearing completion, consisting of detritus chambers, septic

tanks, percolating and storm-water filters. The smoke test was applied to the drains of 42 houses, and 6 were found to be defective. Scavenging, in the hands of the Council's employees, is said to give satisfaction.

Sanitary Inspection.—The sanitary condition of schools is described as “good.” Dairies, cowsheds, milkshops, and slaughter-houses—periodically inspected—were generally found clean. Twenty-eight inspections of factories and workshops revealed no defects. There are 1,587 privy middens in the district, only 1 conversion to the water-carriage system being made during the year. The Inspector (Mr. Dickinson) served 53 notices for the abatement of 93 nuisances.

Notable sanitary improvements.	Wicken Hedge purification works completed; West Ward sewerage scheme and outfall works nearing completion.
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Chief sanitary requirements.	Abolition of privy middens; improvement of back yards and passages.
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Heaton Norris.—(Area in acres, 1,619; Estimated Population, 11,731).—*Medical Officer of Health*, F. W. JORDAN, M.D., D.P.H.; *Salary*, £60 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	13·0	10·6	0·42	0·59	1·44	104
1907	12·0	8·3	0·44	0·35	1·41	73
Mean of 10 years						
1898-1907	15·0	10·1	0·75	0·57	1·61	116
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·0	+2·3	—0·02	+0·24	+0·03	+31
<i>Ten Years' Average.</i> —	2·0	+0·5	—0·33	+0·02	—0·17	—12

A very low birth-rate is again recorded, and the death-rate

is also low, but fractionally above the average of the preceding ten years.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 14 (3 deaths), scarlet fever 28, enteric fever 3, erysipelas 4. Deaths from non-notifiable diseases : whooping cough 2. East Ward contributed the largest number of infectious cases, several occurring in a locality bordering on Stockport, “whence there is no doubt the infection was derived.” Three of the scarlet fever attacks were “return” cases. Escape of sewer gas and miasmatic emanations paved the way for some of the diphtheria outbreaks. In April influenza caused a good deal of illness, and in October a number of cases of septic tonsillitis occurred, thought to be due to offensive odours from a street manhole. Sixteen pathological specimens were sent for examination.

Hospital Accommodation.—A small-pox hospital is provided jointly with Cheadle (Cheshire). For other diseases the Ladywell sanatorium, Salford, is available. Cases treated : diphtheria 4, scarlet fever 12.

Disinfection.—Steam apparatus at the sanatorium used. Rooms fumigated with formalin numbered 54.

Water Supply obtained from the Manchester Longendale waterworks, through the Stockport Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. Drains are frequently smoke tested. Scavenging is performed efficiently by the employees of the District Council.

Sanitary Inspection.—At the cowsheds improved conditions of housing were obtained in several cases, and a number of alterations were carried out in the slaughterhouses, and factories and workshops ; to the latter premises 104 visits were paid. Privy midden conversions numbered

46 ; 268 still remain. The Inspector (Mr. Cunliffe) served 95 preliminary and 6 legal notices, and secured the abatement of 332 nuisances. Sixteen smoke observations were taken.

Meteorological statistics are appended to the report.

Notable sanitary improvements. Conversion of privies to w.c.'s. (Continued activity desirable).

Chief sanitary requirements. Abolition of surface grids for ventilating sewers.

Heysham.—(Area in acres, 1,835 ; Estimated Population, 3,977).—*Medical Officer of Health*, RICHARD HERD, B.A., B.C. ; *Salary*, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	14·0	10·5	0·25	0·75	0·25	107
1907	15·3	9·8	0·50	0·75	1·76	131
Mean of 9 years						
1899-1907	19·9	12·6	0·78	0·62	1·32	125
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—1·3	+0·7	—0·25	...	—1·51	—24
<i>Nine Years' Average</i> —	5·9	—2·1	—0·53	+0·13	—1·07	—18

The low birth-rate is accounted for by the conditions and occupations of the population, which consists mainly of boarding-house keepers and retired tradespeople. The epidemic and infant death rates are the lowest recorded, excepting respectively the years 1906 and 1899.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 2, scarlet fever 3, enteric fever 3, erysipelas

1. From non-notifiable diseases: diarrhœa 1 death. In December the infant department of Sandylands school had to be closed for two weeks owing to an outbreak of measles. Diphtheritic anti-toxin is supplied free of charge to medical practitioners.

Hospital Accommodation.—The Council possess a hospital of 8 beds. One case of scarlet fever treated.

Disinfection.—Clothing and bedding is disinfected by the Lancaster Corporation steam apparatus. Houses fumigated by formalin.

Water Supply.—"A plentiful supply of good water" is obtained from Lancaster. Many houses in Lower Heysham, formerly obtaining water from a pump, have now been provided with a proper supply.

Sewerage, Scavenging, &c.—Sewage is discharged into the sea. The Authority efficiently carry out the work of scavenging.

Sanitary Inspection.—A number of the houses in Lower Heysham are in an insanitary condition, the ventilation being generally at fault; some of the houses have no back entrances, others have not sufficient light, and in certain of the bedrooms the air space is deficient. Schools, bakehouses (1 under-ground) and slaughter-houses are "satisfactory." The defects mentioned last year in connection with the smaller cowsheds have not yet been remedied, a few are badly paved and have no proper channel for drainage, and in others the light and ventilation are insufficient; the remainder of these premises are in "good" condition. Four privy middens were replaced by water closets. Workshops are kept in good order. The Inspector (Mr. Miller) served 10 notices for nuisance abatement.

Heywood (Borough).—(Area in acres, 3,660 ; Estimated Population, 27,047).—*Medical Officer of Health*, H. H. I. HITCHON, M.R.C.S. ; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.							Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.		
1908	21·1	17·4	1·99	1·51	2·88		161
1907	23·4	17·4	1·00	1·45	4·10		122
Mean of 10 years							
1898-1907	22·9	18·2	1·96	1·78	3·76		161

Increase or Decrease on—

<i>Previous Year</i>	—2·3	...	+0·99	+0·06	—1·22	+39
<i>Ten Years' Average.</i> —	1·8	—0·8	+0·03	—0·27	—0·88	...

The death-rate is identical with last year's average, whilst the birth-rate declined considerably, and, with the exception of 1898, when it was exactly the same, is the lowest recorded for twenty-six years. South Ward had the highest death-rate (17·56), and North Ward the lowest (13·75). A considerable rise in the infantile mortality (39 per 1,000) is due mainly to the increase in the number of deaths from diarrhoeal diseases, premature birth, debility, &c. Seventy-two per cent. of the infants who died before attaining the age of twelve months were artificially fed. The appointment of a lady inspector is advocated, whose chief duty would be to give advice to mothers in the feeding and rearing of the young.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 12 (3 deaths), scarlet fever 12, enteric fever 8 (3 deaths), erysipelas 13, puerperal fever 5. Deaths from non-notifiable diseases : measles 5, whooping cough 1, diarrhoea (including 1 from “cholera”) 42. The number of scarlet fever notifications was the lowest during the last

ten years. Measles, prevalent during the latter months of 1907, continued to spread during the year under report to all parts of the Borough, and it was considered advisable to close the infants' departments of several schools. This action was followed by a very noticeable diminution in the number of cases. A high mortality amongst infants, due to diarrhœa, occurred during August and September. The Council supply diphtheritic anti-toxin free of charge.

Hospital Accommodation.—A small-pox hospital with 24 beds is provided at Birtle, but for other diseases there is no provision.

Disinfection.—Steam apparatus (Goddard, &c.) provided at the small-pox hospital. During outbreaks of small-pox this means of disinfection is closed, and reliance has to be placed on disinfection in the houses. The provision of apparatus at the refuse destructor works or some other central position is again advocated.

Water Supply obtained from the Heywood and Middleton Joint Board.

Sewerage, Scavenging, &c.—Sewage is treated at two outfall works: Botany Bay, by precipitation tanks, single contact beds, percolating beds, and land; and at Heap Bridge, by detritus tanks and land. The Corporation employees undertake scavenging, and the work is performed satisfactorily. A refuse destructor is in operation.

Sanitary Inspection.—The sanitary condition of schools is said to be "good." Slaughter-houses are well maintained, but in many cases they are situated in too close proximity to dwellings. In order to comply with the dairy and cowshed regulations, which came into operation in July, 1907, many structural alterations will be required at the farms. Lodging-house inspections revealed two contraventions of the bye-laws. Factories and workshops received 216 visits, and 53

canal boats were examined. Privy middens converted to the water-carriage system numbered 97, leaving 950 to be dealt with. The Inspector (Mr. Robinson) reports on the sanitary work accomplished : 570 notices were served, 862 nuisances abated, 74 smoke observations, &c. For creating smoke nuisances two firms were prosecuted and fined.

Chief sanitary] require-	Better ventilation of sewers ;
ments.	quicker abolition of privies ;
	draining and paving back
	streets and passages ; erection
	of public abattoir ; provision
	of disinfecting apparatus in a
	central position.

Hindley.—(Area in acres, 2,612 ; Estimated Population, 26,343).—*Medical Officer of Health*, JAMES CHRONNELL, M.R.C.S. ; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	30·4	17·6	1·67	0·75	3·45	158
1907	28·8	15·6	2·84	0·73	2·76	152
Mean of 10 years						
1898-1907	34·9	19·0	3·31	0·70	4·02	181
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+1·6	+2·0	—1·17	+0·02	+0·69	+6
<i>Ten Years' Average.</i> —	4·5	—1·4	—1·64	+0·05	—0·57	—23

With the exception of the epidemic death-rate, which is below any previously recorded, the mortality averages show increases as compared with the previous year. The good work done by the District Nursing Association has been so much appreciated that the Committee found it necessary to appoint an additional nurse.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 50 (11 deaths), scarlet fever 159 (11 deaths), enteric fever 20 (5 deaths), erysipelas 21, puerperal fever 5 (2 deaths), continued fever 1. Deaths from non-notifiable diseases: measles 1, diarrhoea 16. Four children were discovered attending school suffering from scarlet fever, whilst others were found playing in the street or frequenting public places during the “peeling” stage of the disease. As a warning to the public a midwife was successfully prosecuted for exposing a child suffering from an infectious disease in a public place. The enteric fever cases were widely distributed, and no common cause could be found. Referring to the Midwives Act, Dr. Chronnell remarks “the midwives are gradually falling into line, they are doing their work better for the greater part, and when we remember that some of them can neither read nor write we must admit the improvement in their methods are little short of marvellous.” The Council supply diphtheritic anti-toxin to medical practitioners free of charge.

Hospital Accommodation. — The small-pox hospital at Sandy Lane—8 beds—has again been used for the treatment of other diseases. Cases treated: diphtheria 1 (the matron of the hospital), scarlet fever 1 (the caretaker), enteric fever 16 (4 deaths). The Council have decided to apply to the Local Government Board for powers to borrow a sum of £8,300 for the provision of an infectious diseases hospital to contain 24 beds—12 for scarlet fever, 8 for enteric fever, and 4 for diphtheria. This district is combined under an Order of the County Council with neighbouring Authorities for the purpose of providing a small-pox hospital.

Disinfection. — Washington Lyon’s steam apparatus provided at the town’s yard; this was used for the disinfection of 2,984 articles. One hundred and sixty-four houses were fumigated.

Water Supply, abundant and wholesome, is obtained from the reservoirs at Rivington belonging to the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is treated on two farms : Hindley Green, by precipitation tanks and streaming filters ; and at Platt Bridge, by septic tanks and double contact beds. The relaying of a portion of a sewer has had the effect of preventing the discharge of crude sewage into the Borsdane Brook. New sewers have been required in certain parts owing to land subsidence. Scavenging is performed satisfactorily by the Authority.

Sanitary Inspection.—The sanitary condition of schools is generally “ very good,” but some are “ capable of improvement.” Bakehouses and slaughter-houses do not call for special comment. The great increase during the year in the quantity of meat condemned—1,444 lbs. as compared with 724 lbs. in 1907—was due to the fact that the carcasses of two tuberculous beasts were destroyed as unfit for food, and the meat of another carcase was so dark coloured as to suggest that the animal had been slaughtered on account of disease. Dairies and cowsheds have been periodically inspected, and at some of the farms great improvements were noted, although accommodation in the majority of cases is so scanty that overcrowding is the rule. Visits to factories and workshops numbered 426, and 7 defects were discovered and remedied. Only 5 privies were converted to water closets during the year, 1,664 still remaining. The Inspector (Mr. Southern) served 278 preliminary and 59 legal notices for the abatement of nuisances, and nearly all were complied with.

Notable sanitary improve- Improved sewage track.
ment.

Chief sanitary require- Infectious diseases hospital ;
ments. refuse destructor ; conversion
of privy middens.

Horwich.—(Area in acres, 3,257; Estimated Population, 16,214).—*Medical Officer of Health*, G. H. WHITAKER, L.R.C.P.E., to 30th November, 1908; from that date, J. S. SEWELL, M.B.; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·2	12·9	1·23	0·86	2·28	145
1907	24·1	10·8	1·56	0·43	2·25	103
Mean of 10 years						
1898-1907	29·9	13·8	1·64	0·55	2·69	133
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+2·1	+2·1	—0·33	+0·43	+0·03	+42
<i>Ten Years' Average.</i> —	3·7	—0·9	—0·41	+0·31	—0·41	+12

Dr. Whitaker, the late Medical Officer of Health, prepared a report on the eleven months ended November 30th, and Dr. Sewell's annual report is based chiefly on that report with the necessary alterations and additions.

The birth and death rates each show an increase of over 2 per 1,000 as compared with last year, and the infantile mortality is considerably higher. The Council have under consideration the question of adopting the Notification of Births Act, 1907.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 2 (1 death), scarlet fever 86 (6 deaths), enteric fever 8 (1 death), erysipelas 16 (1 death). Deaths from non-notifiable diseases: measles 1, whooping cough 10, diarrhoea 1. Over ninety per cent. of the scarlet fever cases received hospital isolation.

Hospital Accommodation provided jointly with Blackrod and Westhoughton at Fall Birch, and for small-pox a

temporary hospital is available at Red Moss. Cases treated : scarlet fever 78 (5 deaths), enteric fever 4 (1 death). This district is combined under an Order of the County Council with neighbouring Authorities for the purpose of providing a small-pox hospital.

Disinfection.—Steam apparatus (Washington Lyon's) at Red Moss hospital available. Houses fumigated with formalin or sulphur.

Water Supply good and plentiful, obtained from a new reservoir at Marklands.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation, sprinkler filters, and sedimentation. Considerable extensions and alterations at the outfall works have been completed. Scavenging is carried out under the supervision of the Council's officials.

Sanitary Inspection. — Bakehouses, slaughter-houses, and lodging-houses are all described as "satisfactory," and dairies and cowsheds as "clean and well conducted." The regulations are being enforced, and owners of cowsheds are being pressed to carry out structural alterations to provide 600 cubic feet of air-space for each cow ; the time for this work to be completed is July 1st, 1909. One hundred and two visits were paid to factories and workshops, 10 defects being noted. Forty-three privies were converted to water closets, 1,113 still existing. The Inspector served 290 notices for the abatement of nuisances. Smoke observations numbered 16.

Notable sanitary improvement.	Completion of sewage outfall works.
Chief sanitary requirement.	Abolition of privy middens.

Hurst.—(Area in acres, 638 ; Estimated Population, 7,387).

—*Medical Officer of Health*, ALBERT HILTON, L.S.A., ;
Salary, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under year to 1,000 Births.
1908	28·1	17·4	2·30	0·81	3·38	216
1907	27·1	15·7	1·76	1·35	3·94	140
Mean of 10 years						
1898-1907	28·2	17·6	1·57	1·21	3·70	178
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+1·0	+1·7	+0·54	—0·54	—0·56	+76
<i>Ten Years' Average</i>	—0·1	—0·2	+0·73	—0·40	—0·32	+38

The mortality statistics for the period under review do not compare favourably with those of 1907. Increases are recorded in the general death-rate, epidemic death-rate, and infantile mortality, the latter rate being the highest recorded since 1900. Dr. Hilton says an analysis of the causes of deaths of infants does not show any great excess over 1907 in the groups of diseases arising from improper feeding and exposure to cold.

Infectious Diseases.—Cases notified : scarlet fever 28 (3 deaths), enteric fever 7 (1 death), erysipelas 1, continued fever 1. Deaths from non-notifiable diseases : measles 6, whooping cough 2, diarrhoea 5. Scarlet fever was rather prevalent in the months of March and May. Measles became epidemic in the latter months of the year ; it originated in East Ward but did not affect the attendance of children at school to any great extent. Later, however, it spread to the neighbourhood of Hurst Cross, &c., and here developed to such a degree that school attendance was reduced about 50

per cent. It was therefore considered advisable to adopt school closure, after which the virulence of the epidemic gradually diminished. The schools were disinfected, and leaflets distributed throughout the district.

Hospital Accommodation.—For small-pox the joint hospital (Ashton-under-Lyne, &c.) at Hartshead available, but for other diseases there is at present no provision. A joint scheme is under consideration, application having been made for borrowing powers.

Disinfection.—No apparatus, fumigation with sulphur relied upon.

Water Supply of good quality is obtained from the reservoirs of the Ashton-under-Lyne, Stalybridge, and Dukinfield joint waterworks.

Sewerage, Scavenging, &c.—The whole of the district is drained into the Ashton-under-Lyne main sewers. The Authority efficiently carry out scavenging.

Sanitary Inspection.—Systematic house-to-house inspection is carried on throughout the year, and a continuous record kept of the conditions found. Bakehouses and slaughterhouses are said to be “satisfactory,” and the farms are kept in a “very clean condition.” The obsolete dairy, &c., regulations have been cancelled, and new ones, based on the Local Government Board’s model, were adopted in December, 1907, and came into operation on February 15th, 1908. Factory and workshop inspections amounted to 234. Privy middens converted to the water-carriage system numbered 28, and to pail closets 40. The Inspector served 48 notices for nuisance abatement, took 93 smoke observations, &c.

Chief sanitary require-	An isolation hospital for diseases
ment.	other than small-pox.

Huyton-with-Roby.—(Area in acres, 3,053 ; Census Population, 4,661).—*Medical Officer of Health*, H. F. PHILLIPS HUNT, M.D. ; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24·0	12·6	1·50	0·64	1·71	62
1907	20·3	11·1	nil.	0·42	3·00	42
Mean of 10 years						
1898-1907	25·2	12·2	0·77	0·53	2·59	107
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+3·7	+1·5	+1·50	+0·22	—1·29	+20
<i>Ten Years' Average</i>	—1·2	+0·4	+0·73	+0·11	—0·88	—45

Although the infant mortality has increased considerably as compared with 1907 it still remains well below the 10 years' average. The general death-rate is again low. The poorer classes now are said to be more careful to keep articles of food free from contamination by the house fly, and by other means, and Dr. Hunt thinks this in a great measure keeps the infant rate as low as it is.

Infectious Diseases.—Diphtheria and membranous croup 17 (4 deaths), scarlet fever 7, enteric fever 1 (fatal), puerperal fever 1 (fatal). Deaths from non-notifiable diseases : whooping cough 1, diarrhoea 1. The majority of the diphtheria cases occurred in January, the disease spreading through contact at school and the neglect of parents to call in medical aid until the disease had become pronounced. Whooping cough, which was very prevalent in August and the two following months, necessitated closure of an infant school for four weeks.

Hospital Accommodation.—Whiston sanatorium available for all purposes. Cases treated : diphtheria 8 (1 death), scarlet fever 6.

Disinfection.—Lyon’s steam apparatus at Whiston may be used. Houses are fumigated with sulphur.

Water Supply, obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage, after passing through settling tanks, is subjected to filtration and land irrigation. Scavenging is carried out in an efficient manner by the Authority.

Sanitary Inspection.—The various shippens, piggeries, &c., were regularly inspected and generally gave satisfaction. All the factories and workshops are well kept; 18 visits were paid to these premises. Only one privy midden underwent conversion to the water-carriage system, leaving 373 still in existence. Notices served numbered 7, nuisances remedied 5, and smoke observations 18.

Notable sanitary improvements.	Passages and back-yards repaired and drained; middens improved.
Chief sanitary requirement.	Proper cleansing and draining of several piggeries.

Ince-in-Makerfield.—(Area in acres, 2,320; Estimated Population, 23,380).—*Medical Officer of Health*, J. H. FLETCHER, M.R.C.S.; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.							Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.		
1908	35·9	17·5	3·07	0·98	4·27		183
1907	33·7	18·8	3·76	0·86	5·10		179
Mean of 10 years							
1898-1907	37·8	21·1	3·76	0·60	5·22		202
<i>Increase or Decrease on—</i>							
<i>Previous Year</i>	+2·2	—1·3	—0·69	+0·12	—0·83		+4
<i>Ten Years’ Average.</i> —	1·9	—3·6	—0·69	+0·38	—0·95		—19

An increase in the birth-rate is accompanied by a decline

in the death-rate, the latter rate being lower than any previously recorded for the district. The question of the adoption of the Notification of Births Act, 1907, is receiving the attention of the Council, a deputation having been appointed to visit and report on the working of the Act in places where it has been adopted.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 8, scarlet fever 157 (2 deaths), enteric fever 25 (7 deaths), erysipelas 26, puerperal fever 2 (1 death). Deaths from non-notifiable diseases: measles 1, whooping cough 12, diarrhoea 50. Scarlet fever of a mild type was prevalent throughout the year, the outbreak being practically confined to two Wards—North with 80 cases, and East with 38 cases. One school was chiefly affected, but closure was not resorted to, children from infected houses being excluded. The enteric fever cases were scattered fairly evenly over the district. No sanitary defect was found in any of the houses, and in no case could infection be definitely traced. As a means of reducing the deaths from diarrhoea Dr. Fletcher recommends the abolition of privy middens, attention to unpaved yards, adoption of the Notification of Births Act, 1907, and also the Public Health Acts Amendment Act, 1907 which would give power to require paving of existing yards. The Council supply diphtheritic anti-toxin to medical practitioners free of charge.

Hospital Accommodation.—A hospital, containing 13 beds, is provided for ordinary infectious diseases. A separate building—12 beds—is available for small-pox. Cases treated: scarlet fever 49 (1 death), enteric fever 1 (fatal). This district is associated with neighbouring authorities under an Order of the County Council for the provision of a small-pox hospital.

Disinfection.—Steam apparatus (Thresh) at the hospital is provided.

Water Supply, good and constant, in part from the Council's deep wells at Golborne, and in part from the Rivington reservoir of the Liverpool Corporation. The well supplying about 40 houses in Little Westwood has been kept in good order.

Sewerage, Scavenging, &c.—Sewage treatment consists of septic tanks, streaming filters, and continuous filtration. The question of the remodelling of the outfall works and relaying the sewers in order to prepare for the abolition, within a reasonable time, of privy middens, and the substitution of the water-carriage system, is still under the consideration of the Council, difficulties due to constant mining subsidences causing delay. Scavenging, as carried out by the Authority is said to give satisfaction. Attention is called to the want of more frequent watering of the side streets during the summer time.

Sanitary Inspection.—Many single houses and small groups of houses have been put into good repair during the year. The sanitary condition of the older schools in the district is described as “not so good in all respects.” There is no cause for complaint as regards the bakehouses, slaughter-houses, and lodging-houses. Dairies, cowsheds, and milk-shops have been inspected at intervals, and found in a cleanly condition. One hundred and six visits were paid to factories and workshops, and all were found to be in good order. Very few conversions of privy middens have taken place during the year, 1,437 still remaining. The Inspector (Mr. Hindley) served 113 notices for the abatement of nuisances.

Chief sanitary require- ments.	Abolition of privies ; paving of existing common yards ; con- version of back-to-back houses to through houses.
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Irlam.—(Area in acres, 4,620 ; Estimated Population, 5,500).

—*Medical Officer of Health*, EDWIN O. JAGO, M.R.C.S. ;
Salary, £20.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27.2	12.5	1.45	nil.	2.90	93
1907	33.6	13.0	0.80	1.20	2.80	95
Mean of 10 years						
1898-1907	32.0	14.7	2.49	0.76	2.01	114

Increase or Decrease
on—

<i>Previous Year</i>	—6.4	—0.5	+0.65	—1.20	+0.10	—2
<i>Ten Years' Average</i>	—4.8	—2.2	—1.04	—0.76	+0.89	—21

With the exception of the respiratory rate all the mortality averages are below the mean of the past decade, but the epidemic death-rate is higher than last year. The birth-rate proved lower than any recorded in the preceding 8 years.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 9 (1 death), scarlet fever 27, erysipelas 6, puerperal fever 2. Deaths from non-notifiable diseases : diarrhoea 7. The scarlet fever cases were not confined to any particular month of the year.

Hospital Accommodation.—The only provision is for for small-pox, an arrangement existing with the Salford Corporation whereby two beds are available. None of the cases of infectious disease, therefore, received hospital treatment.

Disinfection.—No apparatus. Fumigation with formaldehyde relied on.

Water Supply.—“ A good and abundant supply is obtained from Manchester.”

Sewerage, Scavenging, &c.—Sewage is dealt with by intermittent filtration through osier beds. It is proposed to extend the six catchpits in 1909. Flushing of the main sewers has been regularly carried out. Scavenging is satisfactorily performed under contract.

Sanitary Inspection.—The five houses closed in 1907 as unfit for habitation have been demolished. Slaughter-houses, bakehouses, dairies and cowsheds received the usual visits of inspection, all the premises being found “satisfactory.” Two defects discovered during the examination of factories and workshops were attended to. The closet accommodation consists chiefly of privy middens (494) and fresh-water closets (333), only 4 conversions of the former took place. The Inspector (Mr. Kay) served 5 notices, took “several” smoke observations, &c.

Chief sanitary require-ments.

Sewering of rural parts of district ;
hospital provision for ordinary infectious diseases.

Kearsley.—(Area in acres, 1,005 ; Estimated Population, 9,750).—*Medical Officer of Health*, J. C. EAMES, M.D. ; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·3	16·0	3·28	1·02	2·15	192
1907	26·3	13·9	2·08	0·62	1·87	114
Mean of 10 years						
1898-1907	28·3	16·3	2·63	0·93	2·60	180
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—3·0	+2·1	+1·20	+0·40	+0·28	+78
<i>Ten Years' Average</i>	—5·0	—0·3	+0·65	+0·09	—0·45	+12

The birth-rate is the lowest on record, whilst the

death-rate shows an increase as compared with last year of over two per thousand. The epidemic death-rate also is less favourable, the increase being due mainly to an unusual number of deaths from whooping cough and diarrhœa. The infantile mortality is again the "black spot," approaching very nearly two hundred deaths for every thousand births. Dr. Eames says "the chief causes are no doubt improper feeding, want of cleanliness, mothers working too near confinements and too soon after, but I think a comparison of the last two years shows that the greatest factor is a high temperature in the autumn." One remedy suggested is, the substitution of water closets for privy middens, especially in congested areas.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3 (all fatal), scarlet fever 35, enteric fever 17 (3 deaths), erysipelas 1. Deaths from non-notifiable diseases: whooping cough 7, diarrhœa 19. Enteric fever was almost absent until October, then became rather prevalent; the consumption of contaminated shell-fish was suspected as the cause of certain cases. Measles continued in epidemic form from 1907, and necessitated school closure. The Council supply diphtheritic anti-toxin free of charge.

Hospital Accommodation.—An arrangement exists with the Salford Corporation to take cases of ordinary infectious diseases, and for small-pox the Bury, &c., joint hospital at Ainsworth is available. Very little use is made of this provision; in 1907 no cases were removed, and during the present year only 1 case of scarlet fever (fatal).

Disinfection.—Washington Lyon's steam apparatus at Farnworth available. Eighty-six houses fumigated either with sulphur or formaldehyde gas.

Water Supply, obtained from the Bolton Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by septic tanks, roughing filters, and single contact beds at the main

outfall works, and by precipitation tanks, and streaming filters at the Unity Brook works. Sewer extension has taken place. Scavenging is carried out by the Authority. Complaints of neglect in emptying ashpits are "numerous."

Sanitary Inspection.—The house accommodation is fairly good, though there are far too few houses with more than two bedrooms. Cleanliness of the yards and surroundings is often absent. Eight insanitary houses were condemned. The school sanitary arrangements and water supply are now "generally good," but some of the school yards require paving. Bakehouses, slaughter-houses, and dairies and cowsheds are described as "good." Factories received 72 visits. Although the privy midden is almost universal, only 14 conversions took place during the year. The Inspector (Mr. Walsh) served 70 notices, secured the abatement of 302 nuisances, took 22 smoke observations, &c.

Chief sanitary require- Abolition of privy middens in
ment. congested areas.

Kirkham.—(Area in acres, 857; Estimated Population, 3,870).—*Medical Officer of Health*, BENJ. E. JONES, L.R.C.P. (Edin.); *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·7	18·3	4·13	1·55	1·29	184
1907	27·4	15·8	0·26	1·84	3·43	125
Mean of 10 years						
1898-1907	28·7	17·2	1·41	1·10	2·65	132
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	—3·7	+2·5	+3·87	—0·29	—2·14	+59
<i>Ten Years' Average.</i> —	5·0	+1·1	+2·72	+0·45	—1·36	+52

A birth-rate below any previously recorded is accompanied

by a death-rate above the ten years' average, together with epidemic and infant death rates of unsatisfactory dimensions. Deaths of infants from measles, debility, &c., were more numerous than usual, and Dr. Jones thinks "such facts are in favour of the Notification of Births Act, 1907 being put into force, and also that such diseases as measles, whooping cough, chicken-pox, &c., should in some way be recognised by the Authorities."

Infectious Diseases.—Cases notified: diphtheria and membranous croup 7 (1 death), enteric fever 5 (3 deaths), erysipelas 1. Deaths from non-notifiable diseases: measles 8, diarrhoea 4. The district was singularly free from scarlet fever, not a single case being reported; the last time the district was absolutely free was in 1898. The three fatal cases of enteric fever are ascribed to "dirty surroundings, general and personal neglect before and at time of illness." Owing to the prevalence of measles school closure was found necessary.

Hospital Accommodation for small-pox provided at Elswick (Fylde, Preston, and Garstang Joint), and for other diseases at Moss Side (Fylde joint). Cases treated: diphtheria 5 (1 death), enteric fever 3 (2 deaths).

Disinfection.—No proper apparatus. Rooms fumigated numbered 32.

Water Supply, ample and good, obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—"Sewage runs to settling tanks at Freckleton in conjunction with that from Wesham, and then into the River Ribble." Scavenging is now satisfactorily carried out under the supervision of the Inspector. The method of disposing of refuse by tipping is still unsatisfactory.

Sanitary Inspection.—Many of the older houses are deficient in air space, and the poorer class houses are in great need of attention as regards privies and ashpits, back yards, &c. The sanitary arrangements of the National School, will, it is hoped, shortly be improved. Bakehouses, slaughter-houses, and lodging-houses are on the whole clean and well conducted, and the cowsheds have been found on inspection to be in “good condition.” Although 392 privy middens exist only 2 conversions took place. Thirty-two nuisances were abated.

Chief sanitary require- ments.	Attention to old property with small and insanitary back yards; abolition of privy middens.
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Lancaster (Borough).—(Area in acres, 3,506; Estimated Population, excluding Public Institutions, 44,131).—*Medical Officer of Health*, G. R. PARKER, L.R.C.P. (Lond.); *Salary*, £170 (including £20 for the Port).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24·0	12·3	1·08	0·81	1·54	89
1907	23·2	15·0	2·48	1·05	1·92	143
Mean of 10 years						
1898-1907	25·0	14·1	1·87	1·06	2·09	151
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	+0·8	—2·7	—1·40	—0·24	—0·38	—54
<i>Ten Years' Average.</i> —	1·0	—1·8	—0·79	—0·25	—0·55	—62

The fall in the birth-rate, which has been a conspicuous feature of the vital statistics of the Borough, has not been continued in 1908, on the contrary the rate shows a slight increase, and is the highest since 1904. The highest birth-rates

were recorded in Buck Ward (28·92), and Skerton Ward (28·81), and the lowest in Castle Ward (18·66) and Queen's Ward (18·36). The general death-rate is of a favourable character, and the deaths from epidemic diseases show a very considerable decrease upon those of 1907. The rate of deaths of infants under the age of one year is the lowest on record, being no less than 54 per 1,000 births less than last year, and 62 per 1,000 below the average of the preceding decade. Dr. Parker reports that "climatic conditions cannot have had any great effect in the attainment of this result, for the year has not been an exceptionally favourable one." In his opinion the work of the health visitor is beginning to show good results. Attention is again drawn to the need of a municipal milk depôt for providing needy families with reliable milk for their infants, and the Medical Officer of Health once more advocates the establishment of a crèche or day nursery for children whose mothers go out to work, such a place to be utilised for the teaching of house duties to the elder girls attending the elementary schools. The Notification of Births Act, 1907 was adopted, and came into operation on January 21st, 1908. The health visitor steps in when the midwife ceases to visit the mother, and gives advice as to the feeding and management of the infant, laying special stress upon the desirability, where possible, of continuing breast feeding. Skerton, John o' Gaunt, and St. Anne's Wards had the highest infant death-rates, and Queen's Ward the lowest.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 23 (2 deaths), scarlet fever 356 (15 deaths), enteric fever 19 (2 deaths), erysipelas 25 (1 death), puerperal fever 1 (fatal). Deaths from non-notifiable diseases: measles 16, diarrhœa 13. Altogether four hundred and twenty-four cases of infectious disease were notified during 1908, in comparison with 128 in the previous year, the attack rate per 1,000 of the population being 9·63 against 2·94. Scarlet fever, it will be noted, was responsible for no less than 356 cases,

with 15 deaths. Until the summer holidays of the elementary schools were concluded there was less than an average number of reported attacks. After the re-assembling of the schools the disease began to spread slowly, and continued to increase, in the last two months of the year no less than 235 cases being notified. Dr. Parker attributes the epidemic to the fact that in the beginning many mild cases occurred, the nature and gravity of which parents did not recognise, and also to the custom, so common, of calling in neighbours to pass their opinion as to the nature of the patient's disease. These consultants, having examined the child and given their diagnosis, return home and convey the infection with them. Diphtheria was slightly more prevalent than in 1907, but was less fatal. The Authority provides free anti-toxin for the treatment of patients unable to pay for same, but small advantage was taken of the privilege. "The steady decrease of enteric fever is a cause for congratulation;" 5 of the 19 cases were imported. Measles (16 deaths) was prevalent during the Autumn, but not to the same extent as in 1907, when 57 deaths took place. Whooping cough was entirely absent.

Hospital Accommodation.—The hospitals are on two separate sites; the small-pox hospital at Littlefell contains 16 beds, and the sanatorium for other infectious diseases 32 beds. Cases treated: scarlet fever 252 (12 deaths), enteric fever 12. Measles broke out in the hospital on several separate occasions, the infection having been contracted at home previous to the attack of scarlet fever for which the case was admitted.

Disinfection.—Steam apparatus provided at the sanatorium; 3,028 articles were disinfected. Houses are treated with formaldehyde spray or gas, or with sulphur.

Water Supply, exceptionally good, obtained from the millstone grit.

Sewerage, Scavenging, &c.—Sewage is discharged into the River Lune without previous treatment. Drain testing was carried out on an extensive scale, and 637 drains were found to be defective. Scavenging is undertaken by the Council's employees, the bulk of the refuse being taken to the destructor.

Sanitary Inspection.—The whole of the Borough has been inspected in a systematic manner, special attention being given to courts, alleys, and back-yards. Thirty-eight houses unfit for human habitation were dealt with, and 429 back yards in want of paving received attention. Bakehouses, slaughter-houses, and lodging-houses are kept in a "satisfactory condition." A public abattoir is provided. Dairies, cowsheds, and milkshops, although during recent years much improved, are still far from satisfactory. Greater care is now given to the cleanliness of the various utensils used in the milk trade, but many of the milkshops are quite unsuitable for their purpose. In 61 instances tuberculous meat and decayed food were found. Factories and workshops received 476 visits of inspection, 55 defects being noted. Eighty-six visits were paid to canal boats. The town is almost entirely on the water-carriage system, only 40 privy middens and 156 pail closets existing, whilst there are 11,008 w.c.'s. The Inspector (Mr. Smith) reports on a vast amount of sanitary work carried out, including the abatement of 3,660 nuisances. Only 1 smoke observation was taken.

Port of Lancaster.—The population of the Port is again estimated at 109. No birth or death has taken place during the year, and no case of infectious disease came to the knowledge of the sanitary officials. Two hundred and seventy-six vessels entered the Port, and the Sanitary Inspector paid 184 visits to these vessels, 12 sanitary defects of a minor character were noted, all being remedied immediately attention was drawn thereto.

Lathom and Burscough.—(Area in acres, 13,660 ; Estimated Population, 7,724).—*Medical Officer of Health*, J. G. LAING, L.R.C.P.I. ; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.							Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.		
1908	25·6	13·7	0·64	0·38	2·20	111	
1907	22·3	14·2	1·16	0·38	3·63	98	
Mean of 10 years							
1898-1907	28·2	14·8	1·52	0·84	2·55	135	
<i>Increase or Decrease</i>							
<i>on—</i>							
<i>Previous Year</i>	+3·3	—0·5	—0·52	...	—1·43	+13	
<i>Ten Years' Average</i>	—2·6	—1·1	—0·88	—0·46	—0·35	—24	

The epidemic death-rate is the lowest on record, and with the exception of last year the same remark applies to the birth-rate. The appointment of a health visitor and the adoption of the Notification of Births Act, 1907, are recommended by Dr. Laing with a view to reducing the infantile mortality.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 24 (1 death), scarlet fever 16, enteric fever 19, erysipelas 7 (1 death), puerperal fever 3 (2 deaths). Deaths from non-notifiable diseases : measles 1, whooping cough 3. The low mortality from diphtheria is stated to be due to the early notification of the disease and the free use of anti-toxin. As many of the children attending Hall Lane schools, Lathom, suffered from ill-defined sore throats it was considered prudent to adopt closure in February. The Medical Officer does not see any possibility of the district being free from enteric fever and diphtheria so long as the privy middens remain in their present condition—badly

constructed and allowing pollution of air and surrounding soil. School closure was also occasioned by whooping cough and measles.

Hospital Accommodation.—At Burscough a hospital containing 10 beds is available for small-pox, while at Ormskirk (joint) 26 beds are provided for ordinary infectious diseases. Cases treated: diphtheria 6, scarlet fever 8, enteric fever 5.

Disinfection.—The steam apparatus (Washington Lyon's) at Ormskirk hospital employed. Houses are fumigated with formalin.

Water Supply, “ of excellent quality for domestic use,” is obtained by pumping from two deep wells in new red sandstone at Burscough.

Sewerage, Scavenging, &c.—At New Lane outfall works sewage is treated by continuous settlement and irrigation, and at Westhead by precipitation and double filtration. Notwithstanding frequent flushing, complaints have been made that several of the open ventilating manholes at times smelled offensively, and the Council gave instructions for 4 to be closed and ventilating shafts substituted. Scavenging is let out by contract, but the system only works “ fairly satisfactorily,” some of the inhabitants complaining of difficulty in getting ashpits emptied.

Sanitary Inspection.—Three houses have been closed and demolished. The sanitary condition of schools is not satisfactory, while dairies and cowsheds are only “ fair.” Most of the latter are old structures, and if the regulations were enforced it “ would necessitate the building of new premises.” Inspections of factories and workshops numbered 97, revealing 15 defects—all remedied. Eight infringements under the Canal Boats Acts were noticed in the 46 boats examined. There is a preponderance of privy middens to

water-closets, the numbers being respectively 1,440 and 130, only 2 privies were converted to the water-carriage system, although the Medical Officer has strongly advised such conversion, especially at the various elementary schools. The Inspector (Mr. Burrows) reports on the sanitary work accomplished, including the abatement of 83 nuisances.

Chief sanitary require- ments.	Thorough revision of all sanitary arrangements at the schools; abolition of privy middens.
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Lees.—(Area in acres, 203 ; Estimated Population, 3,933).—
Medical Officer of Health, JAMES CURRIE, M.B. ; *Salary*,
£20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under year to 1,000 Births.
1908	31·0	20·8	2·03	1·01	3·30	188
1907	26·8	17·8	1·29	1·55	5·17	221
Mean of 10 years						
1898-1907	25·9	18·6	1·72	1·17	3·86	191
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+4·2	+3·0	+0·74	—0·54	—1·87	—33
<i>Ten Years' Average</i>	+5·1	+2·2	+0·31	—0·16	—0·56	—3

The birth-rate shows an appreciable increase as compared with the previous year, and is the highest recorded for the district during the past decade. A reduction in the infantile mortality has taken place, but this rate is still high, and well above the County average.

Infectious Diseases. — Cases notified : scarlet fever 32 (2 deaths). Deaths from non-notifiable disease : whooping cough 6. The cases of scarlet fever were spread over the whole of the year.

Hospital Accommodation for small-pox is available at the Oldham Corporation hospital (Strinesdale). One case of scarlet fever was, by arrangement, removed to the Borough hospital.

Disinfection.—Infected clothing, &c., is sent to Oldham for disinfection. Houses are fumigated with sulphur and formaldehyde.

Water Supply obtained from the Oldham Corporation.

Sewerage, Scavenging, &c.—Sewage is turned into the Oldham sewers. Scavenging—performed by contract—is said to give satisfaction.

Sanitary Inspection.—Bakehouses, slaughter-houses, and dairies and cowsheds have been periodically visited and found in a fairly satisfactory condition. Thirty-two inspections of factories and workshops were made, no defects being discovered. During the year a number of privy middens have been done away with and pail closets substituted. The Inspector (Mr. Liversage) reports that all the nuisances coming under observation were abated.

Leigh (Borough).—(Area in acres, 6,358 ; Estimated Population, 46,700).—*Medical Officer of Health*, J. KING, M.B. ; *Salary*, £140.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	28·0	16·4	2·26	0·92	4·06	159
1907	25·3	16·0	1·93	0·81	3·98	151
Mean of 10 years						
1898-1907	32·5	18·1	3·28	1·04	3·79	179
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+2·7	+0·4	+0·33	+0·11	+0·08	+8
<i>Ten Years' Average</i> .—	4·5	—1·7	—1·02	—0·12	+0·27	—20

As in the previous year, owing to the illness of Dr. King,

the report was prepared by Dr. A. T. Ross, acting Medical Officer of Health.

A rise in the birth-rate is accompanied by enhanced mortality averages. The highest birth-rates occurred in St. Peter's Ward (37·80) and St. Paul's Ward (35·73) and the lowest in Hope Carr Ward (21·46) and Lilford Ward (18·80), whilst Etherston Ward had the highest death-rate (20·01), and Lilford Ward the lowest (13·25). The infantile mortality varied from 208 in Etherston Ward to 127 in St. Mary's Ward. The death-rate amongst legitimate children equalled 154 per 1,000 births, but amongst illegitimates it was 458 per 1,000.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 78 (22 deaths), scarlet fever 147 (4 deaths), enteric fever 24 (7 deaths), erysipelas 33, puerperal fever 3 (2 deaths). Deaths from non-notifiable diseases: measles 4, whooping cough 7, diarrhoea 62. During the past three years the annual number of cases from diphtheria has shown a marked increase, the figures being 16 cases with 4 deaths in 1906, 27 cases with 5 deaths in 1907, and 78 cases with 22 deaths in the year under review. Dr. Ross is of opinion that want of accommodation at the sanatorium has to a great extent been responsible for this increase. It is therefore pleasing to note that provision has now been made for the treatment of this disease. Scarlet fever was prevalent throughout the year, but there were fewer cases than for some years, namely 147, against 249 in 1907, and 335 in 1906. Referring to the deaths from diarrhoea, Dr. Ross looks to the conversion of privies throughout the Borough to reduce this mortality, which is almost double that of 1907. Voluntary notification of phthisis is in force, but only 6 cases were reported during the year. Although the deaths from tuberculosis have for some years shown a gradual diminution, Dr. Ross does not think that the voluntary notification of phthisis has contributed to

effect this reduction to any extent, and can only attribute it to the fact that it is beginning to be recognised that tuberculosis is an infectious disease, against the ravages of which, light, cleanliness, and fresh air are the most potent protectors.

Hospital Accommodation is provided jointly with Atherton, Tyldesley, &c., at Astley. Cases treated: scarlet fever 87 (1 death), enteric fever 15 (5 deaths).

Disinfection. — Washington Lyon's steam apparatus available. Houses fumigated numbered 209.

Water Supply obtained from the Liverpool Corporation continues satisfactory both as to quality and quantity.

Sewerage, Scavenging, &c.—Sewage undergoes treatment at the Leigh and Atherton joint outfall works in precipitation tanks, streaming filters, and on land. On one occasion the Mersey and Irwell Joint Committee had occasion to complain of an unsatisfactory effluent. A scheme for the extension of the works is contemplated. The removal of nightsoil is still carried out by contract, the refuse being destroyed at the rate of 160 tons weekly at the destructor, and the remaining portion disposed of to farmers or tipped on the sewage farm. The formation of a cleansing department, recommended by the Medical Officer of Health in previous reports, is receiving the consideration of a Committee.

Sanitary Inspection.—Three houses were condemned during the year as unfit for habitation. Bakehouses are described as "good," and slaughter-houses "fair." For slaughtering on unlicensed premises two prosecutions were instituted, convictions being obtained in both cases. Dairies, cowsheds, and milkshops have received attention, and in accordance with the recommendation of a Special Committee on this subject, notices were served on the occupiers of the farms on which defects were found, and many alterations

and improvements effected. Frequent visits were paid to the two common lodging-houses, which were found to be conducted in a satisfactory manner. As a result of five hundred and seventy-seven inspections of factories and workshops a number of defects were remedied. For exposing unsound food for sale, prosecutions were instituted in two instances; in one case a penalty of two months imprisonment was inflicted without the option of a fine, and in the other case costs were obtained. One hundred and sixty-eight water closets were substituted for privies, but 4,572 of the latter still remain. Canal boats—140 in number—were inspected, and with few exceptions found to be clean, well kept, and in good repair. The Inspector (Mr. Jackson) served 424 notices for the abatement of nuisances. Smoke observations numbered 93.

Levenshulme —(Area in acres, 606; Estimated Population, 18,600).—*Medical Officer of Health*, H. E. EDLIN, M.R.C.S.; *Salary*, £90 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25·5	11·1	1·39	0·69	1·98	90
1907	27·6	11·0	0·77	0·77	2·50	96
Mean of 10 years						
1898-1907	27·3	11·2	1·11	0·77	1·93	112
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—2·1	+0·1	+0·62	—0·08	—0·52	—6
<i>Ten Years' Average.</i> —	1·8	—0·1	+0·28	—0·08	+0·05	—22

“The report is of a favourable character, as it records again a low death-rate, a lower infantile mortality, and a steady and continued advancement of the sanitary conditions

of the district." The birth-rate is 10 per 1,000 lower than it was twenty years ago, but Dr. Edlin says this is compensated by the fall during the same period in the general and infantile mortality, and the result altogether is a gain to the physical welfare of the district. By judicious care and proper feeding the constitution and stamina of the surviving infants will be materially improved. The Notification of Births Act was adopted towards the close of the year.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 39 (6 deaths), scarlet fever 81 (4 deaths), enteric fever 4 (1 death), erysipelas 5, puerperal fever 2. Deaths from non-notifiable diseases: measles 4, whooping cough 8, diarrhoea 3. There was an unusual prevalence of infectious disease in this district, the notified cases being more numerous than in any previous year. At two periods, June and November, considerable outbreaks of scarlet fever occurred, each in connection with a school. Prompt measures were taken and the outbreaks were checked without resorting to closure. Diphtheria was prevalent during the early months of the year, the cases as a rule were mild and the infection was believed to be due to an unrecognised case attending at each of the two schools chiefly affected. As usual very few cases of enteric fever were notified; one case was thought to be due to shell-fish (mussels). Much assistance was derived in dealing with diphtheria, enteric fever, and also phthisis, from bacteriological examinations. Whooping cough was prevalent to a slight extent at the commencement of the year, and measles became epidemic during the three months beginning with March. To stem the spread of the latter disease two schools were closed.

Hospital Accommodation.—Ten beds are available at the hospitals belonging to the Manchester Corporation—Baguley and Monsall—for which a retaining fee is paid. During the scarlet fever outbreaks the accommodation reserved was

found insufficient, and a special temporary arrangement was made with Manchester for more beds, and also with Hyde. Cases treated: diphtheria 9 (2 deaths), scarlet fever 33 (2 deaths), enteric fever 1.

Disinfection.—The steam apparatus was used for the disinfection of 1,692 articles, and 131 rooms were fumigated with formaldehyde.

Water Supply, continuous, abundant, and satisfactory, obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—Sewage is treated at the Withington outfall works (Manchester). For flushing sewers over four hundred thousand gallons of water were used during the year, and the smoke test was applied to 218 drains. Scavenging is regularly and systematically carried out by the Council's employees; 4,319 loads of refuse were taken to the destructor.

Sanitary Inspection.—House accommodation is ample and satisfactory, only 5 back-to-back houses remain. The schools, with one exception, are of modern construction, and well arranged. Bakehouses, slaughter-houses, and factories and workshops on the whole comply with the requirements. Dairies, cowsheds and milkshops are kept clean, and in a satisfactory structural condition; the chief difficulty is to secure proper grooming and cleanliness of the cattle before milking. Forty six privy middens were converted to water closets and 83 abolished. The Inspector (Mr. Lord) reports on the work of his department, which included:—

Nuisances abated.....	730
Notices served.....	227
Drains, slop pipes, spouts, &c., repaired ...	164
Water closets and ashbins repaired	197
Smoke observations	11

Leyland.—(Area in acres, 3,725 ; Estimated Population, 7,400).—*Medical Officer of Health*, E. BERRY, L.F.P.S.G. ; Salary, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·6	13·3	1·35	0·54	2·43	202
1907	27·0	18·7	1·48	1·21	4·86	185
Mean of 10 years						
1898-1907	25·3	15·1	1·06	0·95	2·90	152

Increase or Decrease

on—

<i>Previous Year</i>	—6·4	—5·4	—0·13	—0·67	—2·43	+17
<i>Ten Years' Average</i>	—4·7	—1·8	+0·29	—0·41	—0·47	+50

A further increase in the infant mortality, which is the highest experienced for 7 years, elevates this rate to a very undesirable position. The birth-rate, which shows a sharp decline on the previous year, is now the lowest on record.

Infectious Diseases.—Cases notified : diphtheria 1, scarlet fever 28 (1 death), erysipelas 7. Deaths from non-notifiable diseases : measles 1, whooping cough 6, diarrhœa 2.

Hospital Accommodation for small-pox available at the Finnington (Blackburn Corporation) hospital, and for other diseases at Heath Charnock (Chorley, &c. Joint). Cases treated : scarlet fever 11 (1 death).

Disinfection.—No apparatus.

Water Supply.—The present supply from Clayton-le-Woods is “very hard,” but the scheme whereby Thirlmere water, belonging to Manchester, will be provided is nearly completed.

Sewerage, Scavenging, &c.—Treatment of sewage is effected by settlement and irrigation. The Cowling Lane and Dunkirk Lane districts have now been connected to the sewer. The Authority efficiently perform scavenging.

Sanitary Inspection.—The condition of schools and bakehouses is “good.” Regulations under the Dairies and Cowsheds and Milkshops Order came into operation on 2nd November, 1908. A thorough inspection of these premises has been carried out, and with the exception of several defects not of a serious nature they are in a satisfactory state. Visits were paid to factories and workshops on 33 occasions, 2 defects being discovered. The Inspector served 33 notices for nuisance abatement.

Litherland.—(Area in acres, 857 ; Estimated Population, 16,000).—*Medical Officer of Health*, THOMAS D. PADDOCK, M.R.C.S., D.P.H. ; *Salary*, £40 (no claim)

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	35·1	14·6	1·68	1·00	1·50	122
1907	29·1	14·1	2·00	1·06	1·62	147
Mean of 10 years						
1898-1907	35·5	15·1	2·72	0·92	2·74	155
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+6·0	+0·5	—0·32	—0·06	—0·12	—25
<i>Ten Years' Average</i>	—0·4	—0·5	—1·04	+0·08	—1·24	—33

The birth-rate shows a considerable increase as compared with the previous year, and, excepting the general death-rate, all the mortality averages are more favourable. Referring to the infant death-rate, Dr. Paddock considers that the most

effective manner to deal with this question is by the appointment of health visitors and the formation of health societies constituted of ladies willing to act voluntarily in co-operation with local Authorities.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 13 (2 deaths), scarlet fever 133 (4 deaths), enteric fever 2 (1 death), erysipelas 3 (1 death), puerperal fever 2 (1 death). Deaths from non-notifiable diseases: measles 3, whooping cough 6, diarrhoea 11. Scarlet fever became epidemic during the last quarter of the year, 76 cases being notified, practically all in South Ward. The focus of infection was in the Lander Road Council school, and closure was resorted to. It was also found necessary to adopt school closure on account of the prevalence of measles. Whooping cough contributed as many deaths as scarlet fever and diphtheria combined, and the Medical Officer of Health remarks that “parents should use more discretion in allowing patients to go out of doors; unless the weather is very mild, indoor care with special attention to ventilation being preferable.” In cases of diphtheria, anti-toxin is supplied to medical practitioners free of charge.

Hospital Accommodation.—A retaining fee is paid for the use of certain beds at the Bootle Corporation hospitals. Cases treated: diphtheria 7 (1 death), scarlet fever 48 (4 deaths).

Disinfection.—Infected articles are disinfected in the Bootle steam apparatus. Houses are fumigated with sulphur and formalin.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is discharged into the River Mersey. Scavenging—carried out by the Authority—is said to give satisfaction.

Sanitary Inspection.—Dairies and cowsheds have been periodically inspected during the year and are described as “inclined to be overcrowded.” Dr. Paddock says in due course the Council will reduce overcrowding, and improve the light, and ventilation, and also remove certain defects which are now present. The closet accommodation of the district is chiefly on the water-carriage system, only 15 privy middens remaining. Particulars as to the sanitary work accomplished during the year, including water closets repaired 68, drains cleansed, &c. 293, are appended to the report.

Littleborough.—(Area in acres, 7,853 ; Estimated Population, 11,578).—*Medical Officer of Health*, G. K. PITCAIRN, M.B. ; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·6	12·6	0·86	0·77	2·15	83
1907	18·3	15·7	0·78	0·34	2·87	161
Mean of 10 years						
1898-1907	21·3	14·9	0·93	1·01	2·52	136
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+2·3	—3·1	+0·08	+0·43	—0·72	—78
<i>Ten Years' Average</i>	—0·7	—2·3	—0·07	—0·24	—0·37	—53

The birth-rate shows an increase as compared with the previous year, whilst the death-rate has declined, and is the lowest for the district during the past decade, with the exception of the year 1899, when the rate was identical. A considerable reduction has taken place in the infantile mortality, the rate being below any previously recorded.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 14 (2 deaths), scarlet fever 10 (1 death), enteric fever 2 (1 death), erysipelas 9, puerperal fever 2, continued fever 1. Deaths from non-notifiable diseases: whooping cough 5, diarrhoea 1. Scarlet fever was less prevalent than in any year since 1898. Dr. Pitcairn again points out that this disease is generally spread by mild cases mixing with other children either at school or in their own homes, and remarks that the only means of preventing this is the prompt isolation of doubtful cases. Owing to an outbreak of measles at Hollingworth, in November, school closure was adopted. The voluntary notification of phthisis is recommended.

Hospital Accommodation for ordinary infectious diseases is provided jointly with Milnrow and Wardle at Smithy Bridge. Cases treated: scarlet fever 7 (1 death), enteric fever 1. No provision exists for small-pox.

Disinfection.—Dry heat apparatus available. Houses are disinfected with formaldehyde.

Water Supply obtained mainly from the Rochdale Corporation. The water is of excellent quality and the supply abundant, but there are still complaints from the outlying districts of occasional “muddiness.”

Sewerage, Scavenging, &c.—Sewage treatment consists of precipitation tanks and streaming filters. About 500 yards of new sewer were laid in Canal Street and William Street. Scavenging is said to be carried out satisfactorily by the Authority, night soil being disposed of to farmers in the district, and house refuse deposited on various tips.

Sanitary Inspection.—Bakehouses, slaughter-houses, and common lodging-houses have been periodically inspected, and are said to be in a satisfactory condition. Dairies and cowsheds were on the whole found to be clean and well kept, improvements having been effected in seven instances as

regards lighting, better floors, and increased air space. Inspections of factories and workshops numbered 136, only 1 defect being discovered. Forty-nine canal boats were examined, and, with four exceptions, were found in a satisfactory condition. Conversions of pail closets to the water-carriage system numbered 13. The Inspector served 180 notices for nuisance abatement, took 44 smoke observations, &c.

Chief sanitary require-	Proper fixed covers for dust and
ments.	rubbish carts ; provision for the
	treatment of small-pox.

Little Crosby.—(Area in acres, 1,903 ; Estimated Population, 630).—*Medical Officer of Health*, EDWARD BUXTON, M.D. ; *Salary*, £10 10s. (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	17·4	4·7	nil.	1·58	nil.	nil.
1907	16·3	13·1	nil.	nil.	1·63	200
Mean of 10 years						
1898-1907	17·6	10·2	0·17	0·82	1·72	95
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·1	—8·4	...	+1·58	—1·63	—200
<i>Ten Years' Average</i>	—0·2	—5·5	—0·17	+0·76	—1·72	—95

Eleven births and 6 deaths were registered in this district during the year. There were no deaths amongst children under the age of one year.

Infectious Diseases.—Only one case of erysipelas was notified. From non-notifiable diseases : no death.

Hospital Accommodation.—An arrangement exists for the treatment of cases of infectious disease at the Liverpool Corporation hospital at Fazakerley, but no necessity arose for utilising same.

Disinfection.—The apparatus of the Great Crosby Urban District available.

Water Supply, described as “very good,” is obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The sewage of Little Crosby village flows into a settling tank, and the sewers of the Hightown section of the district empty into the River Alt. Hightown is the seat of rapid developments from a building standpoint, and until the proposed sewerage schemes are carried out, several dwellings will be compelled to use the cesspool system. Scavenging is undertaken by the Authority.

Sanitary Inspection.—Attention is drawn to a tendency to overcrowding in the cottages of the old village of Little Crosby. There is only one dairy, situate at Hightown, which is said to be in a “fairly good” condition. Dairy, &c., regulations have not been adopted. It was not found necessary to serve any notices for nuisance abatement. Twelve smoke observations were taken.

Little Hulton —(Area in acres, 1,699; Census Population, 7,294).—*Medical Officer of Health*, J. H. MARSH, L.R.C.P.E.; *Salary*, £35.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·4	15·0	2·60	0·68	2·87	139
1907	29·6	11·6	1·23	0·41	1·64	74
Mean of 10 years						
1898-1907	29·2	14·4	1·82	0·86	3·23	128

Increase or Decrease on—

<i>Previous Year</i>	—3·2	+3·4	+1·37	+0·27	+1·23	+65
<i>Ten Years' Average.</i> —	2·8	+0·6	+0·78	—0·18	—0·36	+11

A birth-rate below any previously recorded is accompanied by a death-rate which is the highest for the past 7

years, and the epidemic death-rate is also higher than for some years. The infant mortality shows a considerable increase as compared with the previous year, and is above the ten years' average, Dr. Marsh attributing this to the large number of deaths of children under the age of one week—two living only a few minutes, and others only a few hours.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 5 (1 death), scarlet fever 43 (3 deaths), enteric fever 19 (4 deaths), puerperal fever 1. Deaths from non-notifiable diseases: whooping cough 6, diarrhoea 5. Enteric fever, of a malignant type, was most prevalent during the last quarter of the year. Several of the cases were traceable to eating contaminated shell-fish, and others to direct infection. All the deaths from whooping cough (6) were of children under the age of 5 years, and the Medical Officer remarks “as infant schools are the chief centres for spreading infection, I would again urge the raising of the school age in your district, and not allow any child to attend school until at least four years old.” The voluntary notification of phthisis is in force in the district. Diphtheritic anti-toxin is supplied to medical practitioners free of charge.

Hospital Accommodation for ordinary diseases is provided jointly with Farnworth, &c., and for small-pox an arrangement exists with the Bury, &c., Joint Board for the treatment of cases at the Ainsworth hospital. Cases treated: diphtheria and membranous croup 2 (1 death), scarlet fever 22 (3 deaths), enteric fever 9.

Disinfection.—Washington Lyon's steam apparatus at the hospital available.

Water Supply, described as “satisfactory,” obtained from the Bolton Corporation.

Sewerage, Scavenging, &c.—The method of sewage treatment consists of septic tanks and streaming filters, the sewage being dealt with on two farms, Ellenbrook and Worsley Road. During the past year several of the side streets have been paved and sewered. Attention is again drawn to the unsatisfactory state of the scavenging of the district as performed by contract, Dr. Marsh remarking that “until carried out by the Authority, this will ever be a source of trouble and danger.”

Sanitary Inspection.—The Medical Officer of Health remarks that there is “room for great improvement” in the sanitary condition of several of the schools. In one instance—British schools—latrines have been provided in lieu of the old deep privies. Bakehouses are said to be “satisfactory,” and slaughter-houses “fair.” Dairies and cowsheds have been regularly inspected, but few improvements made. The existing regulations have been revised, and it is hoped that alterations to several of the farm buildings will be insisted upon. Thirty-eight inspections of factories and workshops were made, and with a few exceptions these premises were found clean and well ventilated. In one instance the sanitary accommodation was insufficient, and in two others unsuitable, but on the service of notice improvements were effected. The owners of all the factories have decided to adopt the water-carriage system. Twenty-four privies were converted to fresh-water closets, and 8 to waste-water closets. The Inspector (Mr. Davies) secured the abatement of 270 nuisances, only 14 statutory notices being required. Six smoke observations were taken. The Medical Officer points out that although written warnings have been sent to the offenders there has been little or no abatement of the smoke nuisance.

Chief sanitary require- ments.	Improved scavenging ; paving of several side streets ; privy midden conversions.
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Little Lever.—(Area in acres, 808; Estimated Population, 5,500).—*Medical Officer of Health*, J. S. PICKFORD, M.R.C.S.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	28·3	12·7	1·45	1·45	3·09	96
1907	24·2	18·8	2·93	0·55	4·58	166
Mean of 10 years						
1898-1907	25·9	17·3	3·66	0·76	3·85	181

Increase or Decrease on—

<i>Previous Year</i>	+4·1	—6·1	—1·48	+0·90	—1·49	—70
<i>Ten Years' Average.</i>	+2·4	—4·6	—2·21	+0·69	—0·76	—85

The statistics presented by Dr. Pickford are of a favourable character, the birth-rate, which of late years has shown a continuous fall, being higher than in any year since 1901, whilst the death-rate, with one exception, is below any previously recorded for the district. The infantile death-rate is the lowest on record, the Medical Officer remarking that “this is especially gratifying, as for many years Little Lever has had an unenviable reputation for its large annual sacrifice of infant lives.”

Infectious Diseases.—Cases notified: diphtheria 1, scarlet fever 36 (1 death), enteric fever 3, erysipelas 7. Deaths from non-notifiable diseases: whooping cough 2, diarrhoea 5. Scarlet fever, mainly of a mild type, was present throughout the year, but at no time did it assume epidemic proportions. Four cases of phthisis were voluntarily notified. Dr. Pickford says “the Midwives Act continues to work well, the midwives having performed their duties in a very satisfactory manner, and no cases of puerperal fever have been reported.”

Hospital Accommodation provided jointly with Farnworth and Little Hulton. For the treatment of small-pox cases

an arrangement exists with the Bury, &c. Joint Hospital Board to treat cases at the Ainsworth hospital. Cases treated: scarlet fever 2, enteric fever 2.

Disinfection.—The steam apparatus at the hospital is available.

Water Supply, obtained from Bury, is described as “satisfactory.”

Sewerage, Scavenging, &c.—Sewage treatment consists of settling tanks and streaming filters. Scavenging is said to have been satisfactorily carried out by the Council’s workmen.

Sanitary Inspection.—Two houses, condemned as unfit for human habitation, have been demolished. Three cases of overcrowding were brought under notice and remedied. As in the previous year attention is again drawn to the bad state of many of the streets, and also to the large number of back-yards in the township which are unpaved or unflagged and in a most insanitary condition. The Medical Officer points out that these matters should be dealt with by the Council in a systematic manner. Slaughter-houses, bake-houses, dairies and cowsheds—periodically inspected—were found to be clean and well kept. Thirty-six visits paid to factories and workshops resulted in 6 defects being discovered and remedied. Four old privies were converted into waste-water closets. Thirty-three canal boats came under observation; in only one instance was an infringement of the Acts noted. The Inspector served 70 notices and secured the abatement of 74 nuisances.

Notable sanitary improvements.	Demolition of the old Inn; paving and flagging of Dearden Street.
Chief sanitary requirements.	Paving or flagging of backyards, and sewerage and paving of certain streets.

Little Woolton.—(Area in acres, 1,389 ; Census Population, 1,091).—Medical Officer of Health, C. STUART PETHICK, M.B. ; *Salary*, £25.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·9	6·4	nil.	nil.	1·83	41
1907	8·2	10·9	nil.	2·74	0·91	111
Mean of 10 years						
1898-1907	18·5	10·0	0·80	1·16	1·26	122
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+13·7	—4·5	...	—2·74	+0·92	—70
<i>Ten Years' Average.</i>	+3·4	—3·6	—0·80	—1·16	+0·57	—81

The birth-rate shows a considerable increase as compared with the previous year, and is the highest for the past 5 years. The mortality statistics are of a favourable character, the death-rate being below any previously recorded for the district with the exception of the year 1896. The infant death-rate is entirely accounted for by one death from prematurity.

Infectious Diseases.—Cases notified : diphtheria 2 ; both cases occurred in the month of October. For the third year in succession no death resulted from any of the principal epidemic diseases.

Hospital Accommodation.—A retaining fee is paid for the use of 2 beds—1 for small-pox—at the Whiston sanatorium. One case of diphtheria was removed.

Disinfection.—Steam apparatus at the hospital available.

Water Supply, obtained from Liverpool ; although complaints have been received as to the colour of the water, no doubt exists as to its purity.

Sewerage, Scavenging, &c.—The drainage and sewage disposal of that portion of the district which is connected to the sewage farm has been quite satisfactory. A portion of the district drains into cesspools. Periodical flushing of the sewers is carried out. The Authority efficiently carry out scavenging.

Sanitary Inspection.—"Dairies and cowsheds, on inspection, have been found satisfactory, and as regards air space the sheds are particularly well provided." Four notices were served for nuisance abatement and complied with.

Chief sanitary require- Drainage and sewerage of low-
ment. lying portion of district.

Longridge.—(Area in acres, 3,285; Census Population, 4,304).—*Medical Officer of Health*, GEORGE JUKES, L.R.C.P. (Edin.); *Salary*, £20.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·0	16·2	1·16	2·55	1·16	160
1907	27·8	13·4	nil.	2·09	2·32	83
Mean of 10 years						
1898-1907	27·8	16·7	1·24	1·57	2·95	137

Increase or Decrease

on—

<i>Previous Year</i>	—1·8	+2·8	+1·16	+0·46	—1·16	+77
<i>Ten Years' Average</i>	—1·8	—0·5	—0·08	+0·98	—1·79	+23

With the exception of the year 1903, the birth-rate is the lowest recorded for the district. The mortality statistics are not so favourable as in the preceding year, the infantile

mortality especially showing a great increase, and being well above the average of the preceding decennial period. The phthisis death-rate is considerably in excess of the average of the County urban districts.

Infectious Diseases.—Cases notified : diphtheria 1 (fatal), scarlet fever 2, enteric fever 2, erysipelas 2. Deaths from non-notifiable diseases : whooping cough 4. Three of the deaths from whooping cough—which was very prevalent during the early months of the year—were of children under the age of twelve months.

Hospital Accommodation for small-pox is provided at Elswick conjointly with Fylde, Preston, and Garstang, and for ordinary infectious diseases at the joint hospital at Fulwood. Cases treated : diphtheria 1 (fatal), scarlet fever 2, enteric fever 1.

Disinfection.—No proper appliance. Infected clothing, bedding, &c., is sent to be disinfected in the steam apparatus belonging to the joint hospital at Fulwood.

Water Supply, good and plentiful, obtained from the Preston Corporation.

Sewerage, Scavenging, &c.—Sewage is dealt with by precipitation, filtration, and land. Scavenging receives attention from the Council's employees, and is said to be performed satisfactorily.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses have been regularly inspected and found clean and in good order. With the exception of a few instances where ventilation was deficient, dairies and cowsheds were generally found satisfactory. All the factories in the district are now provided with proper sanitary conveniences. Privies converted to the water-carriage system numbered 24, and only 33 of the former now remain. Forty-nine notices were served for nuisance abatement, and all were complied with.

Lytham.—(Area in acres, 2,464; Estimated Population, 10,094).—*Medical Officer of Health*, J. C. FISHER, M.A., M.B.; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	13·4	13·5	0·39	0·49	1·68	73
1907	13·7	11·5	0·31	0·94	1·26	61
Mean of 10 years						
1898-1907	17·4	13·1	0·72	0·91	1·73	120
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—0·3	+2·0	+0·08	—0·45	+0·42	+12
<i>Ten Years' Average</i>	—4·0	+0·4	—0·33	—0·42	—0·05	—47

The birth-rate—fractionally below last year—is the lowest recorded for the district. North-East Ward had the highest birth-rate (20·8) and South-East Ward the lowest (9·0). The general death-rate shows an increase as compared with the previous year, and the same remark applies to infantile mortality, although the latter rate shows a marked improvement when contrasted with the mean of the past decade. If the deaths of visitors were excluded the death-rate would be 12·1 per 1,000 of the population.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3 (1 death), scarlet fever 14, enteric fever 12, puerperal fever 2 (1 death). Deaths from non-notifiable disease: whooping cough 3. Of the scarlet fever cases notified eight were reported in December, six being directly due to a boy attending school whilst suffering from a mild attack, thus spreading the infection. School closure was adopted, and to this measure Dr. Fisher attributes the arrest of the spread of the disease. The number of enteric fever cases is somewhat in excess of the average

for recent years, due to the fact that eight of the attacks were contracted from two cases which occurred on a farm outside the district, and which were not at first recognised as enteric fever. The delivery of milk and other produce from the infected farm into the district was immediately discontinued. Attached to the houses of two of the remaining patients were insanitary privy middens, and dirty wet back-yards, such surroundings being a constant danger to the health of the community. It was found necessary to resort to school closure on two occasions during the Spring on account of measles, with the result that what might have been a serious outbreak resulted in the occurrence of a few isolated cases only.

Hospital Accommodation is provided at Moss Side (Fylde Joint) for ordinary infectious diseases, and at Elswick for small-pox. Cases treated: diphtheria and membranous croup 3 (1 death), scarlet fever 11, enteric fever 9.

Disinfection.—Steam apparatus provided. Rooms fumigated numbered 125, and 934 articles were disinfected. Dr. Fisher remarks “that the inhabitants have availed themselves more freely of the Council’s offer to disinfect the rooms occupied by phthisical patients.”

Water Supply, good, obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage is discharged—untreated—into the estuary of the Ribble shortly after high water. The sewers are frequently flushed, and in 126 instances drains and sanitary fittings were tested with smoke, several defects being found and remedied. Scavenging, in the hands of the Authority, is satisfactorily performed, the refuse being taken to the destructor.

Sanitary Inspection.—The sanitary condition of schools is described as “very good.” Bakehouses have been kept under supervision, and found to be conducted in a satisfactory manner. The old insanitary slaughter-houses were abandoned

during the early part of the year, and since then slaughtering has taken place in the new abattoir, where the work has been carried out under the best conditions from the point of view of inspection, cleanliness, and convenience. Dairies and cowsheds on the whole are satisfactory, but attention is again drawn to the want of grooming of the cattle before milking. Factories and workshops received 194 visits of inspection. Excellent progress has been made as regards the abolition of privies and ashpits during the year, 101 having been dealt with, 77 being converted into water-closets and 24 abolished and dust-bins substituted. It is hoped that in the near future these insanitary abominations will be non-existent in the district. The Inspector (Mr. Yates) secured the abatement of 425 nuisances. One smoke observation was taken.

Notable sanitary improvements.	Provision of new abattoir; conversion of privies to water-closets.
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Middleton (Borough).—(Area in acres, 4,775; Estimated Population, 27,500).—*Medical Officer of Health*, FREDK. J. WHEELDON, M.R.C.S.; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·8	16·1	1·54	1·52	3·09	153
1907	21·6	16·7	1·50	1·57	3·84	140
Mean of 10 years						
1898-1907	24·2	17·1	1·58	1·40	3·40	155
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·2	—0·6	+0·04	—0·05	—0·75	+13
<i>Ten Years' Average</i>	—1·4	—1·0	—0·04	+0·12	—0·31	—2

The birth-rate shows an improvement as compared with

the previous year, and the death-rate is also slightly more favourable. The infantile death-rate is higher than last year, due to the increased number of deaths from diarrhoeal diseases and premature birth. The Council have adopted the Notification of Births Act, 1907, and a health visitor has been appointed, and greater efforts are now being made to check this heavy infant mortality. Referring to the work of the health visitor, Dr. Wheeldon says "unhappily, the prejudice of a number of mothers against the most elementary ideas of cleanliness, both as regards the child itself and also the feeding utensils, is almost unsurmountable, and the extent of almost criminal neglect which has come to light since her work commenced is very serious. Ignorance and poverty can be combated in time, but alcoholism, general fecklessness, and absence of the maternal instinct are much more difficult to deal with." As to the feeding of infants it is stated that only one child fed naturally died from diarrhoea during the year, whilst 14 others, fed by means of the tube bottle, were victims, a fact which emphasises in the strongest manner possible the great danger of the feeding bottle with an india-rubber tube.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 33 (5 deaths), scarlet fever 23 (1 death), enteric fever 9 (1 death), erysipelas 19 (1 death), puerperal fever 1. Deaths from non-notifiable diseases: measles 17, whooping cough 4, diarrhoea 15. The number of notifications of scarlet fever again declined, and the disease was of a very mild type. Measles was entirely absent from the district until July, when a case occurred at one of the schools and gave rise to a severe epidemic, which lasted with varying incidence to the end of the year. The health visitor paid frequent visits to the homes of the children affected, and where no doctor was in attendance on the case gave simple instructions to the parents as to isolation, avoidance of chill, &c. In many cases it was found necessary to insist on the

patient having medical advice, as the majority of parents persist in considering the complaint trivial, and take very inadequate care of the patient. Increased advantage has been taken of the opportunities offered by the Council for sending specimens from diphtheria, phthisis and enteric fever patients for bacteriological examination. Thirty-three specimens were sent during the year—9 enteric fever, 14 phthisis, and 10 diphtheria. The Medical Officer of Health recommends the voluntary notification of phthisis.

Hospital Accommodation.—By agreement, infectious cases are removed to the Marland hospital belonging to the Rochdale Corporation. Cases treated : diphtheria 9 (1 death), scarlet fever 3, enteric fever 2.

Disinfection.—Thresh steam apparatus provided. Rooms disinfected numbered 284, infected articles 643. The Council undertake the disinfection of rooms and bedding after cases of phthisis.

Water Supply, abundant, and of excellent quality, obtained from the Heywood and Middleton Joint Water Board.

Sewerage, Scavenging, &c.—Sewage treatment consists of precipitation tanks and streaming filters. On two occasions during the year the Mersey and Irwell Joint Committee have had occasion to complain of the polluting character of samples of effluent obtained from the sewage works. The condition of Wince Brook—said to be contaminated before reaching Middleton—is again complained of, and is a source of great discomfort to the people who reside in its vicinity. Scavenging is performed by the Authority in a satisfactory manner, the refuse being burnt in the destructor.

Sanitary Inspection.—A large amount of overcrowding still exists in the houses of the working classes, and the type

of house that is being built in the Borough is said to be such as to encourage this. The schools have been visited at frequent intervals and systematically inspected, various defects being brought to the notice of the Education Committee. The unsatisfactory condition of the majority of the school playgrounds—dusty in dry weather and dirty in wet—is again complained of. Bakehouses are described as “good,” and slaughter-houses “fairly clean.” The provision of a public abattoir is strongly recommended. Dairies and cowsheds are not at all satisfactory. With very few exceptions the premises are short of light, badly ventilated, and the drainage is of the most primitive description. Factories and workshops received 175 inspections. Canal boats examined—26 in number—with one exception complied with the Acts. The amount of meat destroyed as unfit for human consumption was 628 lbs. Eleven privy middens were converted to water closets and 4 to pails, whilst 420 conversions of pail closets to the water-carriage system have taken place. The Inspector (Mr. Norton) served 310 statutory and 303 preliminary notices, and as a result 754 nuisances were abated. Eighty-one smoke observations were taken; the limit of five minutes’ emission of black smoke in the half-hour was exceeded on 21 occasions. In 20 cases the offenders were summoned to appear before the Magistrates, and in 19 instances fines and costs were inflicted.

Notable sanitary improvements.

Adoption of Notification of Births Act, 1907; appointment of health visitor; conversions of closets.

Chief sanitary requirements.

The notification of phthisis; provision of a public abattoir; early removal of stable refuse; continued conversion of closets.

Milnrow.—(Area in acres, 5,198; Estimated Population, 8,735).—*Medical Officer of Health*, JOHN CHADWICK, M.R.C.S.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·4	16·0	1·37	0·57	2·63	144
1907	18·5	16·2	1·60	0·57	3·33	173
Mean of 10 years						
1898-1907	19·5	14·9	1·18	1·15	2·82	139
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+2·9	—0·2	—0·23	...	—0·70	—29
<i>Ten Years' Average.</i>	+1·9	+1·1	+0·19	—0·58	—0·19	+5

The statistics presented by Dr. Chadwick compare favourably with those of the previous year, an increase in the birth-rate being accompanied by decreases in all the mortality averages excepting the phthisis rate, which remains stationary. The infantile mortality, although more favourable, might be further reduced by greater general care and avoidance of the bad habit of taking young infants out in the early morning to be nursed by others.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3, scarlet fever 96 (4 deaths), enteric fever 4 (2 deaths), erysipelas 8, puerperal fever 4 (2 deaths). Deaths from non-notifiable diseases: measles 2, whooping cough 2, diarrhoea 2. An epidemic of scarlet fever occurred in the Spring. The bulk of the cases were mild in character, and to this fact is attributed the spread of the disease, as some cases could not be detected, and it is feared that in others carelessness was shown by parents. Measles and whooping cough each contributed a number of cases in the early part of the year.

Hospital Accommodation provided jointly with Littleborough and Wardle at Smithy Bridge. Cases treated: scarlet fever 37 (1 death), enteric fever 1.

Disinfection.—Fraser's portable hot-air apparatus provided. Houses are disinfected either with sulphur or formalin.

Water Supply obtained mainly from the Rochdale and Oldham Corporations. The outlying districts are supplied by springs.

Sewerage, Scavenging, &c.—Sewage treatment, consisting of septic tanks, percolating beds, and land has continued to give satisfaction during the year. The sewers are flushed monthly. Scavenging is said to be carried out by the Council's workmen in a satisfactory manner.

Sanitary Inspection.—The sanitary condition of schools is described as "generally good." Bakehouses (29), slaughterhouses (7), and dairies and cowsheds were on the whole found to be satisfactory. Factories and workshops received 46 inspections, 8 defects being found and remedied; with one exception the sanitary conveniences at these premises were found in a satisfactory condition. During the year 20 closets were converted to pails, which is the system principally in vogue in this district. Notices served numbered 12, and in two instances it was found necessary to institute legal proceedings. Twelve smoke observations were taken; the Medical Officer of Health remarks that nuisance due to the emission of black smoke is not so keenly felt as formerly, but there is still room for further improvement.

Chief sanitary require-	Gradual conversion of back-to-
ments.	back houses; further cottage
	accommodation.

Morecambe (Borough).—(Area in acres, 1,801 ; Estimated Population, 14,640).—*Medical Officer of Health*, J. W. WATTERSON, M.B. ; *Salary*, £50 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births
1908	15·6	13·1	0·40	0·54	1·77	91
1907	14·4	12·6	0·21	0·70	1·40	106
Mean of 10 years						
1898-1907	19·1	13·8	1·11	0·75	1·82	140

Increase or Decrease
on—

<i>Previous Year</i>	+1·2	+0·5	+0·19	—0·16	+0·37	—15
<i>Ten Years' Average</i>	—3·5	—0·7	—0·71	—0·21	—0·05	—49

The outstanding features of the report are an increase in the birth-rate, low death-rate from general and epidemic diseases and affections of the chest, a reduction in the infantile mortality and in the phthisis death-rate, absence of any death from measles and whooping cough, and a very small number of notifications of infectious disease. If the deaths of *bonâ-fide* visitors are excluded the death-rate is equal to 11·68 per 1,000 of the population.

Infectious Diseases. — Cases notified : diphtheria 3 (1 death), scarlet fever 15 (2 deaths), enteric fever 8 (2 deaths), erysipelas 5. From non-notifiable disease : diarrhœa 1 death. Fewer notifications were received than in any of the last sixteen years. The scarlet fever attacks were sporadic, distributed over nine months ; three cases were imported. “ Local defects ” probably gave rise to several of the enteric fever and diphtheria cases. Anti-diphtheritic serum is supplied free of cost, and bacteriological examinations of blood, throat swabs, &c., are undertaken. Measles, although not the cause of a single death, was so much in evidence as to

warrant closure of several schools, but whooping cough was almost absent. These two diseases have not contributed any fatality for three years. Dr. Watterson strongly recommends the compulsory notification of phthisis and cases with tuberculous discharges. Speaking of the Midwives Act the Medical Officer says it has been "a boon to the less affluent inhabitants." The midwives are now careful in their duties, and know the importance of sterilization, &c.

Hospital Accommodation consists of two blocks; the upper (intentionally for small-pox) has 10 beds and 1 cot, and the lower, used for scarlet fever cases, has 25 beds and 2 cots. It is hoped that in the near future the hospital will be so re-arranged and increased in size that all enteric and diphtheria cases can be taken in. Cases treated: scarlet fever 9 (1 death).

Disinfection. — A new Washington Lyon's steam disinfecter has been installed, and was used on 34 occasions; 36 houses with 101 rooms have been well sprayed and fumigated with formalin, and 4 schools disinfected.

Water Supply, abundant in quantity and excellent in quality, obtained from springs in the millstone grit.

Sewerage, Scavenging, &c.—The system of sewage disposal is still dual, part passing through septic tanks, and part being discharged directly into the sea. Additional ventilating shafts have been connected to the sewers, and a large number of drains tested. Scavenging—undertaken by the Authority—is again described as "good, but in some parts not sufficiently so." A refuse destructor is in constant use.

Sanitary Inspection.—No complaint is made respecting house accommodation or the sanitary condition of schools. Bakehouses are described as "good," and slaughter-houses, with the exception of a few defects relating to the cleansing

and removal of refuse, were found to satisfy present requirements. "Notwithstanding these remarks a small public abattoir is a desideratum and would be of much benefit to the public health." The constant inspection of dairies and cowsheds has been attended with good results, but many of these places are not yet satisfactory. Noticeable improvements have been effected as the result of inspection of workshops and workplaces; this is chiefly seen in the shrimp-picking industry. Thirty-three privy middens were converted to the water-carriage system. The Inspector (Mr. Lamb) reports on the sanitary work accomplished, which included the abatement of 857 nuisances. Three smoke observations were taken.

Meteorological statistics are appended to the report.

Chief sanitary require-	Completion of sewerage system
ment.	which has already cost over
	£100,000.

Mossley (Borough).—(Area in acres, 3,622; Estimated Population, 13,838).—*Medical Officer of Health*, J. HEALEY, M.B.; *Salary*, £50 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·3	17·5	1·08	1·29	3·83	114
1907	22·6	15·3	0·58	0·94	3·05	108
Mean of 10 years						
1898-1907	21·1	15·9	1·25	1·11	3·10	131
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·7	+2·2	+0·50	+0·35	+0·78	+6
<i>Ten Years' Average</i>	+2·2	+1·6	—0·17	+0·18	+0·73	—17

All the mortality averages are in excess of those of last

year, the general death-rate being the highest recorded for six years. A rise in the birth-rate is again recorded.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 20 (4 deaths), scarlet fever 40 (1 death), enteric fever 3 (1 death), erysipelas 7, puerperal fever 1. Deaths from non-notifiable diseases: whooping cough 5, diarrhoea 4. No common cause could be found to account for the increased number of diphtheria attacks. The scarlet fever cases were mild in character and scattered over the whole district.

Hospital Accommodation.—A farm house at Mays Hill has been converted into a small-pox hospital—8 beds. For other infectious diseases there is no provision.

Disinfection.—A Delépine Thresh steam disinfecter is provided at the sewage works.

Water Supply.—The greater part of the town is supplied from Swineshaw reservoir, where the water is treated with whiting to counteract its plumbo solvency. A small part of the town is supplied from Yeoman Hey reservoir. No case of lead poisoning attributable to the water supply has come under observation during the year.

Sewerage, Scavenging, &c.—Sewage undergoes treatment in septic tanks and streaming filters; a new filtering area and storm water tanks are shortly to be constructed, a loan of £9,000 for this purpose having been sanctioned. The greater part of Roughtown has been sewered during the year and most of the houses connected up. Scavenging is carried out by the Authority in a satisfactory manner.

Sanitary Inspection.—A systematic inspection of the Borough is being carried out, some 750 houses so far having been examined. The house accommodation is very fair, but there is a great want of cottages with three bedrooms. Two

of the slaughter-houses are “very good” and two “indifferent.” Bakehouses are “satisfactory,” and lodging-houses “very fair.” “The sanitary condition of most of the farms leaves much to be desired.” In August an outbreak of food poisoning occurred, attributed to meat pies made at one of the bakehouses, and 1 death resulted. Factories and workshops received 73 visits of inspection, and as a result 13 defects were remedied. The Inspector (Mr. Buckley) served 168 notices, and secured the abatement of 115 nuisances. In one instance legal proceedings had to be instituted before the necessary work was accomplished. The abatement of smoke nuisance is desirable; no observations were taken during the year.

Notable sanitary improve- Sewering of Roughtown.
ment.

Chief sanitary require- Enforcement of dairy and cow-
ment. shed regulations.

Much Woolton.—(Area in acres, 792; Census Population, 4,731).—*Medical Officer of Health*, CHARLES V. VEREKER, L.R.C.P.I.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·0	13·3	0·63	1·26	1·90	94
1907	20·0	16·2	0·42	0·84	4·65	84
Mean of 10 years						
1898-1907	25·7	15·0	1·83	1·15	3·26	115

*Increase or Decrease
on—*

<i>Previous Year</i>	—2·9	+0·21	+0·42	—2·75	+10
<i>Ten Years' Average.</i> —	5·7	—1·7	—1·20	+0·11	—21

A birth-rate identical with that of the previous year is

accompanied by a reduction in the death-rate. The infantile mortality rate, although higher than the rate for 1907, is still low. Dr. Vereker attributes this satisfactory condition partly to the increased care and knowledge exercised in the rearing of infants, especially during the hot summer months when diarrhœa causes so much mischief. Cases of phthisis are notified voluntarily.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 6 (1 death), scarlet fever 18, enteric fever 2, erysipelas 1, puerperal fever 2 deaths but only 1 case notified. Deaths from non-notifiable disease: diarrhœa 2. Several cases of scarlet fever were brought into the district from other localities, and also one of the enteric fever cases. Phthisis continues to be notified voluntarily by the doctors practising in the district, and the Council's Officers disinfect and supply disinfectants free of expense whenever required.

Hospital Accommodation.—By the payment of a retaining fee two beds at the Whiston sanatorium are reserved for the use of this district. Cases treated: diphtheria 2, scarlet fever 12. One case of enteric fever was removed to Liverpool.

Disinfection. — Fraser's hot-air apparatus provided. Fifty-two houses were fumigated with sulphur, and all the schools were disinfected during the holidays.

Water Supply.—Almost the whole of the district is supplied with Liverpool Corporation water, which is of excellent quality.

Sewerage, Scavenging, &c.—The sewage of the Western portion of the district flows into the Liverpool sewers at Garston, and that of the eastern portion is dealt with on a farm at Halewood by broad irrigation. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—Cottage property has received attention during the year, and where nuisances and defects

were found to exist, action was taken. Important improvements have been carried out in the sanitary arrangements of one of the schools. Bakehouses, slaughter-houses, and dairies and cowsheds are said to be in a satisfactory condition. Inspections of factories and workshops revealed 5 defects, which were remedied on attention being drawn thereto. Privies converted to water closets during the year numbered 6. The Inspector served 112 notices for the abatement of nuisances.

Chief sanitary require-	Further conversion of privy
ment.	middens.

Nelson (Borough). — (Area in acres, 3,466 ; Estimated Population, 39,500).—*Medical Officer of Health*, A. P. MILLAR, M.D. ; *Salary*, £100

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·7	11·0	0·58	0·81	2·45	117
1907	19·8	11·2	0·71	1·31	2·78	111
Mean of 10 years						
1898-1907	22·5	12·0	1·17	0·80	2·63	135

Increase or Decrease
on—

<i>Previous Year</i>	+0·9	—0·2	—0·13	—0·50	—0·33	+6
<i>Ten Years' Average</i>	—1·8	—1·0	—0·59	+0·01	—0·18	—18

A low death-rate is again recorded, but the infantile mortality shows a slight increase on last year's average. Dr. Millar again advocates the appointment of a health visitor.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 34 (3 deaths), scarlet fever 193 (6 deaths).

enteric fever 9 (1 death), erysipelas 21, puerperal fever 3. Deaths from non-notifiable diseases: measles 5, whooping cough 6, diarrhoea 2. Although a large number of cases of infectious disease were notified the report contains very little information as to the action taken to prevent the spread of such disease. Almost one-half the scarlet fever cases occurred during the last quarter, and these were chiefly in Bradley Ward. Measles was prevalent during the Spring months.

Hospital Accommodation.—No provision except for small-pox—at Catlow—32 beds. The Committee have had the question of obtaining hospital accommodation for other infectious diseases under consideration, but no decision has yet been arrived at.

Disinfection.—The steam apparatus at the destructor works was used for the disinfection of 1,628 articles, and 198 rooms have been disinfected.

Water Supply, “of first class purity,” is obtained from two gathering grounds above Coldwell and the Ogden Springs.

Sewerage, Scavenging, &c.—The method of sewage treatment is septic tanks, sprinkler filters, and sedimentation tanks. Further extensions have taken place at the outfall works. Scavenging and cleansing carried out by the Corporation staff; all ashes and refuse are burned at the destructor.

Sanitary Inspection.—One insanitary house was condemned. Slaughter-houses, and dairies and cowsheds are described as “very fair,” and bakehouses as “good.” The general condition of factories and workshops is satisfactory—173 visits of inspection were made to these premises. The Inspector (Mr. Priestley) reports that a large number of nuisances were abated, 108 after service of statutory notices.

Forty-two smoke observations were taken, and legal proceedings instituted in one case for exceeding the time limit.

Newton-in-Makerfield.—(Area in acres, 3,105 ; Estimated Population, 20,180).—*Medical Officer of Health*, HAROLD E. WATKINS, M.R.C.S. ; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·1	11·3	1·78	0·79	1·53	102
1907	27·7	10·5	0·71	0·50	1·67	89
Mean of 10 years						
1898-1907	32·4	15·0	2·05	0·85	2·97	142

Increase or Decrease

on—

<i>Previous Year</i>	—0·6	+0·8	+1·07	+0·29	—0·14	+13
<i>Ten Years' Average.</i> —	5·3	—3·7	—0·27	—0·06	—1·44	—40

The birth and death rates varied but fractionally from those of 1907 ; both rates are well below the averages for the preceding decade, and with the exception of last year, the infantile mortality is the lowest recorded.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 29, scarlet fever 31 (1 death), enteric fever 6 (1 death), erysipelas 45 (2 deaths), puerperal fever 5 (2 deaths), continued fever 2. Deaths from non-notifiable diseases : measles 3, whooping cough 13, diarrhoea 18. It is a noteworthy fact that every case of diphtheria occurred in parts of the district with a cold or damp sub-soil, viz., clay ; not a single case occurred in the parts with a sandy sub-soil. Anti-toxin is supplied by the District Council. At the end of the third quarter measles appeared in Wargrave Ward and spread gradually throughout the township. As the primary measures

adopted failed to arrest the epidemic a number of schools were closed. A severe outbreak of influenza occurred in the early months of the year—the worst since 1889-90—and affected both young and old throughout the township. In many of the schools nearly half the children were absent, and many of those present were not fit to be there. Under these circumstances it was considered desirable to close all the schools excepting one mixed department. Whooping cough also gave some trouble at this time, and chicken-pox occurred as a localised epidemic necessitating school closure in December. Twenty-nine cases of phthisis were notified voluntarily.

Hospital Accommodation is available for small-pox by arrangement with the Liverpool Corporation, and for diphtheria, scarlet fever, and enteric fever at the Warrington Corporation hospital. Cases treated: diphtheria 9, scarlet fever 23 (1 death), enteric fever 3.

Disinfection. — No proper appliances. Rooms are disinfected either with sulphur or formalin.

Water Supply obtained from a deep well in Southworth Road.

Sewerage, Scavenging, &c.—Sewage is treated in single contact bacterial beds at two works—Central and West End—after passing through settling tanks, &c. A new septic tank was brought into use at the beginning of the year at the former works. Some extension of the sewers is required in parts of Wargrave Ward. The Sankey and Millingford brooks are still unsatisfactory, the pollution being “almost entirely caused before they reach this district.” The Authority undertake scavenging.

Sanitary Inspection.—House accommodation is ample and the surroundings are usually quite clean. Several of the schools are now somewhat old buildings—at one the closet

accommodation was re-modelled, and at another the sewers were re-laid. Bakehouses are clean and well kept and the same remark applies to slaughter-houses, the public abattoir, lodging-houses, and factories and workshops; to the latter premises 265 visits of inspection were paid. Dairies and cowsheds are in "fair condition." Only 4 privy middens were abolished during the year, leaving 476 yet to be dealt with. The Inspector (Mr. Ashcroft) served 225 notices and secured the abatement of 426 nuisances.

Chief sanitary requirements.	A steam disinfecter; provision (in the future) of an isolation hospital and a refuse destructor; extension of sewers and sewage disposal works.
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Norden.—(Area in acres, 5,358; Estimated Population, 4,000).—*Medical Officer of Health*, W. HIRST BATEMAN, M.B.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·5	13·7	0·75	0·50	2·00	73
1907	16·7	13·5	0·50	1·75	0·27	134
Mean of 10 years						
1898-1907	20·0	14·6	1·05	0·85	2·35	130
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+3·8	+0·2	+0·25	—1·25	+1·73	—61
<i>Ten Years' Average.</i>	+0·5	—0·9	—0·30	—0·35	—0·35	—57

A marked rise in the birth-rate is associated with an equally noticeable fall in the infantile death-rate, the latter being the lowest recorded. For the second year in succession

not a single infant death was due to any of the diseases classified as “diarrhœal.” Dr. Bateman urges his Council to make a determined effort to do away with the abominable privy midden and the not much less objectionable cesspool, or he is afraid “diarrhœal diseases will again decimate the infant population.”

Infectious Diseases.—Cases notified: diphtheria 2 (1 death), scarlet fever 3, puerperal fever 1. Deaths from non-notifiable disease: measles 2. Arrangements have now been made to supply diphtheritic anti-toxin free of charge. Measles prevailed extensively during the latter part of the year, especially in the Catley Lane district, and necessitated school closure.

Hospital Accommodation.—A farm house has been converted into a small-pox hospital with 4 beds. No provision for other diseases.

Disinfection.—No apparatus. Formalin used for house disinfection.

Water Supply, except in a few instances, is obtained from the Heywood and Middleton Water Board.

Sewerage, Scavenging, &c.—Sewage undergoes treatment in septic tanks and bacterial filters. A small charge is still made for the removal of house refuse, and this prevents some householders from arranging with the Council’s staff for the performance of this work.

Sanitary Inspection.—Bakehouses are in “good” order, and slaughter-houses “fair.” The standard of the dairies and cowsheds is slowly improving, but their condition cannot yet be looked upon as satisfactory. Dairy, &c., regulations have been adopted, but they are not enforced. Factories and workshops received 33 visits. Only 3 notices were required

for the abatement of nuisances, all others being remedied without this formality. Six smoke observations were taken.

Chief sanitary require- Abolition of privy middens and
ment. cesspools.

Ormskirk.—(Area in acres, 574 ; Census Population, 6,857).—

Medical Officer of Health, WILLIAM ANDERTON, F.R.C.S.E.;

Salary, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·7	17·0	0·58	1·16	2·91	94
1907	27·2	12·9	1·02	1·16	1·89	80
Mean of 10 years						
1898-1907	30·7	19·0	1·26	1·38	4·14	128
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	+0·5	+4·1	—0·44	...	+1·02	+14
<i>Ten Years' Average.</i> —	3·0	—2·0	—0·68	—0·22	—1·23	—34

The death-rate shows a considerable increase on last year's rate, but it is 2 per 1,000 below the mean of the decade 1898-1907. An increase is also recorded in the infantile mortality but this is also well below the average of previous years.

Infectious Diseases.—Cases notified : scarlet fever 31, enteric fever 1, erysipelas 2. Deaths from non-notifiable disease : diarrhœa 4. The whole of the scarlet fever cases notified received hospital isolation ; most of the attacks took place between May and October.

Hospital Accommodation is provided jointly with Lathom and Burscough, at Green Lane for ordinary infectious diseases,

and at Burscough for small-pox. Cases treated: scarlet fever 31, enteric fever 1.

Disinfection.—The steam disinfectors were used 34 times, and 53 houses were stoved.

Water Supply, very good, obtained from the deep sandstone. Additional mains have been laid in the Ruff Lane neighbourhood.

Sewerage, Scavenging, &c.—Sewage is treated by settlement, irrigation, and filtration. The Authority carry out scavenging. Plans and specifications have been prepared for the erection of a refuse destructor.

Sanitary Inspection.—Improvement scheme No. 2 has been carried out. All the buildings included in the scheme have been demolished, the site cleared, and all the work in connection with the improvement is practically completed; the houses left in this scheme have been provided with separate yards, closets, and ashpits, and in some cases water closets and dry ashbins; new drains have been laid, the houses re-arranged, and the back passages paved with new grit setts. Courts and alleys are regularly swept and cleaned, and the drains flushed and disinfected. Bakehouses, slaughter-houses, lodging-houses, dairies and cowsheds are regularly inspected, and, on the whole, give satisfaction. One hundred and thirteen visits were made to factories and workshops. Although 700 privy middens exist only 4 underwent conversion during the year. Nuisances abated numbered 40.

Notable sanitary improvement.	Removal of obstructive buildings.
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Chief sanitary requirements.	A refuse destructor; conversion of privy middens.
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Orrell.—(Area in acres, 1,617; Estimated Population, 6,015).—*Medical Officer of Health*, J. LLOYD JOHNSTONE, M.R.C.S.; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	29·2	17·4	3·65	1·49	2·99	221
1907	27·0	15·2	1·66	1·16	2·32	147
Mean of 10 years						
1898-1907	35·1	17·2	2·91	0·83	3·07	152
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+2·2	+2·2	+1·99	+0·33	+0·67	+74
<i>Ten Years' Average.</i> —	5·9	+0·2	+0·74	+0·66	—0·08	+69

Reviewing the mortality statistics given above one “cannot call them satisfactory in a single instance, for in every class enumerated the balance is adverse” as compared with 1907, and excepting the respiratory rate, with the averages of the preceding ten years. The infant rate is “appalling”; the cause, Dr. Johnstone says, is not far to seek. “There is no doubt that the mischief is due to improper feeding and want of care on the part of those in charge of young children. So many young mothers put their babies out to nurse whilst they go to work. The formation of a District Nursing Association is a very big step in the right direction.”

Infectious Diseases.—Cases notified: diphtheria 5 (1 death), scarlet fever 6, enteric fever 2, erysipelas 7, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: whooping cough 3, diarrhœa 18. The whole of the diarrhœa deaths took place amongst children under 5 years of age, 12 under the age of one year.

Hospital Accommodation nil. Orrell is combined under a County Council Order with the adjoining districts for the purpose of providing a small-pox hospital.

Disinfection.—No apparatus. Ten houses were fumigated.

Water Supply “ continues to maintain its reputation.”

Sewerage, Scavenging, &c.—Sewage is discharged into the Wigan Corporation mains at Gathurst. Scavenging is carried out in a satisfactory manner by the Authority.

Sanitary Inspection.—The district has been systematically inspected. Slaughterhouses offer no ground for complaint, and bakehouses, with one exception, comply with the requirements. Dairies and cowsheds are, as a rule, well kept, and more attention is now bestowed on the ventilation and lighting of shippens. It is to be regretted that the Council has not yet adopted dairy and cowshed regulations. “No steps were found necessary to enforce the Factory and Workshop Act.” The closet accommodation is mostly of the privy midden type, and only 11 conversions took place during the year. The Inspector (Mr. Farrimond) secured the abatement of 113 nuisances.

Oswaldtwistle.—(Area in acres, 4,885 ; Estimated Population, 15,000).—*Medical Officer of Health*, A. E. TOWNLEY, M.B. ; *Salary*, £60.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25·2	14·6	1·26	0·60	2·33	134
1907	25·4	16·0	0·87	0·81	3·31	116
Mean of 10 years						
1898-1907	25·9	16·2	1·51	0·72	3·44	164
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—0·2	—1·4	+0·39	—0·21	—0·98	+18
<i>Ten Years' Average.</i> —	0·7	1·6	0·25	0·12	1·11	30

The general death-rate is reduced as compared with last

year, but the epidemic death-rate and the infantile mortality are less favourable. The work of the District Nurses in giving instruction to mothers in the proper methods of rearing children is said to have been "invaluable, and has saved many an infant life which otherwise would have been sacrificed either from ignorance or carelessness." Printed cards on "infant feeding" have been distributed.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 35 (4 deaths), scarlet fever 12, enteric fever 7 (3 deaths), erysipelas 8, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: measles 2, diarrhoea 10. The number of cases of diphtheria reported has been far in excess of any previous year. Practically every part of the town was affected; no one locality, with the exception of the streets round the Springfield district, being specially at fault. There is little doubt that the cases round Springfield were due to contact, and in one instance a woman had to be cautioned for exposing herself two days after having been notified as suffering from the disease. Scarlet fever caused fewer cases than in any previous year. Measles gave rise to a few cases during the first half of the year, and whooping cough was more or less in evidence, although not responsible for a single death.

Hospital Accommodation.—No beds for the treatment of ordinary infectious diseases. For small-pox a farmhouse at Ramsclough has been provided with 10 beds.

Disinfection.—Steam apparatus is available at the gas-works. The Medical Officer of Health suggests that new and up-to-date appliances be purchased, as the existing disinfector is not sufficiently efficacious. Houses fumigated numbered 59.

Water Supply obtained from two reservoirs—Jack-house and Cobbs. In addition there is a separate reservoir

for Belthorn village. Application has been made for sanction to borrow £4,663 for the purpose of constructing filters at Cobbs reservoir.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks, followed by (a) double contact and filters, (b) double contact, (c) single contact. The Local Government Board has sanctioned a scheme for three 60 feet sprinklers and construction of filters for treatment of top water in stand-by storm water tanks. The question of the sewerage of Belthorn has been under consideration, and application was made to the Local Government Board for sanction to borrow £1,280 to purchase New Hall Head farm to construct sewage works for this village, but the Board refused the application on account of the unsuitability of the land for irrigation, and recommended the Council to acquire a small piece of land in a suitable locality, and provide tanks and artificial filters for dealing with the sewage. The employees of the Council carry out scavenging.

Sanitary Inspection.—In certain parts of the district a house-to-house inspection was carried out. Bakehouses and slaughter-houses on the whole are well kept. A public abattoir is provided, Dairies and cowsheds are not satisfactory—with few exceptions the air space in the shippons is insufficient, and in many cases the lighting, ventilation, and drainage require attention. Fifteen defects were discovered as the result of 91 visits of inspection to factories and workshops. Many old privies still exist, but they are gradually undergoing conversion, 50 being abolished during the year and the water-carriage system substituted. The Inspector (Mr. Rawling) reports on the sanitary work accomplished; nuisances abated numbered 183, notices served 126, smoke observations 4.

Chief sanitary require-	Abolition of privy middens;
ments.	new steam disinfectors.

Padiham.—(Area in acres, 970 ; Estimated Population, 13,930).—*Medical Officer of Health*, N. R. DHARMAVIR, F.R.C.S.(Edin.), D.P.H. ; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·0	16·3	1·43	0·64	3·58	165
1907	24·5	15·8	0·72	0·64	3·53	194
Mean of 10 years						
1898-1907	25·6	16·4	1·44	0·89	2·88	187

Increase or Decrease

on—

<i>Previous Year</i>	+1·5	+0·5	+0·71	...	+0·05	—29
<i>Ten Years' Average.</i>	+0·4	—0·1	—0·01	—0·25	+0·70	—22

The general death-rate approximates very closely to the average of the preceding decade, and the birth-rate shows a fractional increase. A decided fall occurred in the infant death-rate as compared with 1907, but it is still much too high. Dr. Dharmavir reports that the district every year loses a large number of infants as a result of the unnatural system of nursing out which is so prevalent. The offer of the Council to supply humanised milk at a moderate charge has been taken advantage of by a few parents.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 18 (3 deaths), scarlet fever 26 (1 death), enteric fever 3, erysipelas 11 (3 deaths), puerperal fever 2 (1 death), continued fever 1. Deaths from non-notifiable diseases : measles 10, diarrhoea 6. An epidemic of measles commenced in September and continued during the remaining three months. The attacks were usually severe but uncomplicated. School closure was resorted to.

Hospital Accommodation provided jointly with Burnley, &c., for all purposes. Cases treated : diphtheria 5 (1 death), scarlet fever 17 (1 death), erysipelas 1 (fatal).

Disinfection.—No proper appliances, houses fumigated with formalin. Last year the need of efficient disinfecting appliances was pointed out.

Water Supply obtained from moorland on the south side of Pendle Hill. The composition of the gathering ground is millstone grit and Yoredale rock.

Sewerage, Scavenging, &c.—Sewage is treated by continuous precipitation and irrigation. A scheme for extending the outfall works is under consideration. Additional sewers have been connected to the sewage farm. The Authority undertake scavenging. A refuse destructor is in operation.

Sanitary Inspection.—Bakehouses appear to be well kept. Slaughter-houses are mostly old buildings, and not provided with the best sanitary conditions ; in some cases the premises are in close proximity to dwellings. Concentration and better supervision would be obtained by the provision of a public abattoir. Dairies and cowsheds are said to be “capable of considerable improvement.” The dairy, &c., regulations will be enforced from May 1st, 1909. In a private Act of Parliament, obtained by the Urban Council, the “tuberculous milk clauses” were incorporated. Factories and workshops received 303 visits of inspection, 32 defects being found. Privy middens are almost non-existent, but there are a large number of pail closets ; 13 of the latter have been converted to w.c.’s. The Inspector (Mr. Hocking) served 180 notices, secured the abatement of 321 nuisances, took 124 smoke observations, &c.

Poulton-le-Fylde. — (Area in acres, 915 ; Estimated Population, 2,550).—*Medical Officer of Health*, JAMES ANDERSON, M.B. ; *Salary*, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	19·6	14·5	0·78	0·39	1·17	200
1907	16·8	15·6	nil.	1·96	1·96	93
Mean of 8 years						
1900-1907.....	23·5	13·0	0·33	0·90	1·04	102

Increase or Decrease on—

<i>Previous Year</i>	+2·8	—1·1	+0·78	—1·57	—0·79	+107
<i>Eight Years' Average.</i> —	3·9	+1·5	+0·45	—0·51	+0·13	+ 98

The general death-rate, although below last year's average, is above the mean of the eight preceding years, and the infantile mortality reaches a very high figure. Ten deaths of children under the age of one year took place, as compared with 4 in 1907 and 1906, and 3 in 1905. Two deaths were due to epidemic diseases—in the three preceding years not a single death was registered as due to diseases of this class.

Infectious Diseases.—Cases notified : diphtheria 2, scarlet fever 6, enteric fever 1. Deaths from non-notifiable diseases : measles 1, whooping cough 1. Measles was prevalent in the spring and necessitated school closure.

Hospital Accommodation for ordinary infectious diseases is available at Moss Side (Fylde joint), and for small-pox at Elswick. Cases treated : scarlet fever 3.

Disinfection.—No proper appliances, formalin spray relied upon.

Water Supply, good and plentiful, obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage flows by gravitation into the tidal portion of the River Wyre at Skippool. Sewers were flushed regularly every month, and an additional ventilating shaft was provided in Breck Road. Since scavenging was taken out of the hands of contractors and undertaken by the Authority an improvement has been noticeable. A further improvement would be effected by the more frequent emptying of ashpits.

Sanitary Inspection.—Bakehouses and slaughter-houses are in “good order,” and dairies and cowsheds cleanly. On January 1st, 1908, regulations under the Dairies, Cowsheds, and Milkshops Order came into operation. Seven privy middens were abolished and water closets substituted. The Inspector (Mr. Moss) served 60 notices and secured the abatement of 82 nuisances.

Notable sanitary improvement.	A number of streets formed and paved.
Chief sanitary requirement.	Better provision for refuse disposal.

Preesall-with-Hackinsall.—(Area in acres, 3,232; Estimated Population, 1,960).—*Medical Officer of Health*, W. H. ROBINSON, M.R.C.S. ; *Salary*, £20.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	20·9	12·2	0·51	0·51	1·53	170
1907	20·5	11·6	0·52	1·05	1·05	51
Mean of 8 years						
1900-1907	26·3	12·3	1·16	0·55	1·75	47
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+0·4	+0·6	—0·01	—0·54	+0·48	+119
<i>Eight Years' Average.</i> —	5·4	—0·1	—0·65	—0·04	—0·22	+123

The most marked feature of the statistics is the increase in the infantile mortality.

Infectious Diseases.—Only one case of scarlet fever was notified. From non-notifiable disease : diarrhoea 1 death.

Hospital Accommodation.—Small-pox is treated at the joint hospital at Elswick, and arrangements have been made for sending cases of other infectious diseases to Moss Side (Fylde Joint). The case of scarlet fever was not removed to hospital.

Disinfection.—No apparatus. Houses fumigated with sulphur or formalin.

Water Supply, good, obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—The sewerage system is unsatisfactory. Cesspools and open ditches discharge on to the foreshore near large blocks of property. Dr. Robinson states that “although there has been very little sickness during the year, I must remind you that until the district has a suitable and efficient sewerage system, you cannot rest without the fear of an epidemic being likely to break out at any time, probably with disastrous results.” The Authority carry out scavenging.

Sanitary Inspection.—Two insanitary houses were condemned. Bakehouses and slaughter-houses are well kept, but dairies and cowsheds do not give satisfaction. Some of the worst cowsheds have been reconstructed. These premises are subject to regulations, but the provisions thereof are not rigidly enforced. Three hundred and thirty privy middens exist, only 4 being converted during the year. The service of 40 notices secured the abatement of a like number of nuisances. Five smoke observations were taken.

Notable sanitary improve-	Scavenging carried out more
ments.	regularly ; reconstruction of
	several insanitary cowsheds.

Chief sanitary require- Disinfecting apparatus ; a
ments. sewerage scheme ; reconstruc-
tion of cowsheds ; abolition of
privy middens.

Prescot.—(Area in acres, 297 ; Estimated Population, 8,000).—*Medical Officer of Health*, S. M. GREEN, M.R.C.S. ;
Salary, £35.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·8	18·7	3·12	1·24	5·00	167
1907	32·1	15·7	1·75	1·25	2·87	132
Mean of 10 years						
1898-1907	34·9	18·2	2·72	1·03	3·16	166
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—5·3	+3·0	+1·37	—0·01	+2·13	+35
<i>Ten Years' Average.</i> —	8·1	+0·5	+0·40	+0·21	+1·84	+1

A considerable fall in the birth-rate as compared with 1907 is accompanied by a rise of 3 per 1,000 in the death-rate, and considerable increases in the epidemic, respiratory, and infant death-rates. A severe epidemic of influenza in the first three months of the year, and the prevalence of diarrhœa, were mainly responsible for these unsatisfactory features.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 8 (2 deaths), scarlet fever 8, enteric fever 10 (2 deaths), erysipelas 8, puerperal fever 1 (fatal), continued fever 1 death. Deaths from non-notifiable diseases : measles 1, whooping cough 4, diarrhœa 15. Two of the enteric fever cases were nursed by a person who conveyed the disease to her own family by contaminating their food, the result being

that five more attacks took place. In the months of April and June a slight epidemic of whooping cough occurred, confined mainly to very young children.

Hospital Accommodation.—The Whiston sanatorium is available, a retaining fee being paid. Cases treated: diphtheria 3, scarlet fever 2, enteric fever 4 (2 deaths).

Disinfection.—The steam apparatus at the hospital is used. Sixteen houses were fumigated after the occurrence of notifiable infectious diseases, and 8 after phthisis.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is at present treated in settling tanks and by land filtration. Tenders have been accepted for new sewage disposal works consisting of “screening and detritus chambers, hydrolitic hydrolising tanks, and four 80 feet circular filters with travelling distributors.” The estimated cost is £6,000. The work of scavenging and refuse removal is carried out under the supervision of the Council’s officials. A small furnace is provided for burning paper, rags, and other kinds of refuse.

Sanitary Inspection.—The 38 workmen’s dwellings erected by the Council are well tenanted, and the whole area is in good condition. Another area has been laid out for building purposes. Many back passages are very unsatisfactory, and require paving, &c. Bakehouses—including one underground—are well kept, and slaughter-houses, lodging-houses, and dairies and cowsheds said to be in good order. Factories and workshops received 155 visits, 12 defects being found and remedied. Thirty-two privy middens were converted to the water-carriage system; 661 still remain. The Inspector (Mr. Norris) reports on the sanitary work accomplished, including the service of 135 notices, and the abatement of 173 nuisances.

Notable sanitary improvements.	New sewage works being constructed ; storm water sewer provided.
Chief sanitary requirements.	Paving of back passages ; conversion of privy middens.

Prestwich.—(Area in acres, 2,494 ; Estimated Population, excluding Asylum, 11,500).—*Medical Officer of Health*, FRED STEPHENSON, L.R.C.P.E. ; *Salary*, £70.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·5	13·3	1·13	0·78	2·78	72
1907	23·5	14·0	1·09	0·81	2·36	123
Mean of 10 years						
1898-1907	22·0	12·9	1·39	0·93	2·23	101
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—2·0	—0·7	+0·04	—0·03	+0·42	—51
<i>Ten Years' Average.</i>	—0·5	+0·4	—0·26	—0·15	+0·55	—29

The birth and death rates both declined as compared with last year, and the infantile mortality showed a decided fall, this rate, with the exception of 1905, being the lowest recorded for the district.

Infectious Diseases. — Cases notified : diphtheria and membranous croup 18 (4 deaths), scarlet fever 53 (1 death), enteric fever 2, erysipelas 3, puerperal fever 1. Deaths from non-notifiable diseases : measles 3, whooping cough 3, diarrhoea 2.

Hospital Accommodation. — The Salford Corporation small-pox hospital is situated in this district, and the Council have an arrangement for the treatment of local cases. The

Ladywell sanatorium—also belonging to Salford—is available for other diseases. Cases treated: diphtheria and membranous croup 6 (4 deaths), scarlet fever 26 (1 death), erysipelas 1, puerperal fever 1.

Disinfection.—No proper appliances in the district. Sixty houses and 31 schools were fumigated with sulphur.

Water Supply for the villages of Prestwich, Rooden Lane, and Rainsough is derived from the Corporations of Manchester and Bury, while the Simister Lane district gets a supply from Heywood. The Bury water requires more attention to filtration.

Sewerage, Scavenging, &c.—Sewage is at present treated at two outfall works—Clough, and George Street. The Council have accepted tenders for alterations to the tanks, the construction of a storm-water bed, and four percolating beds. A contract has also been entered into for the construction of the sewer for connecting the George Street works to the Clough works. The Authority carry out scavenging in a satisfactory manner. The provision of a refuse destructor is under consideration.

Sanitary Inspection.—The house accommodation is fairly good, but the paving of backyards requires more attention. The drains at some of the schools have been reconstructed. Bakehouses (including 2 underground), slaughter-houses, and dairies and cowsheds are all said to be in “good” condition. Privy middens converted to water-carriage system numbered 89. The Inspector (Mr. Windsor) secured the abatement of 500 nuisances. Twelve smoke observations were taken.

Notable sanitary improvements.	Reconstruction of old sewers ; conversion of privies.
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Chief sanitary requirement.	Paving and sewerage of backyards and passages.
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Radcliffe.—(Area in acres, 3,098 ; Estimated Population, 27,000).—*Medical Officer of Health*, D. P. M. FARQUHARSON, M.B. ; *Salary*, £60 (no claim).

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·8	13·0	0·77	0·40	2·70	142
1907	22·2	15·4	1·48	1·07	3·88	137
Mean of 10 years						
1898-1907	25·2	17·2	2·01	1·00	3·82	170
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+0·6	—2·4	—0·71	—0·67	—1·18	+5
<i>Ten Years' Average.</i>	—2·4	—4·2	—1·24	—0·60	—1·12	—28

A slight increase in the birth-rate is recorded in comparison with a steady decline which has been taking place since the year 1902. Radcliffe Bridge and Stand Lane Wards each had a rate of 24·9 per 1,000, Black Lane Ward 22·2, and Radcliffe Hall Ward 19·3. The general death-rate—the lowest on record—varied from 14·7 in Stand Lane Ward, 13·3 in Radcliffe Bridge Ward, to 12·3 in Black Lane Ward, and 11·8 in Radcliffe Hall Ward. The epidemic death-rate is also below any previously recorded, and, with the exception of last year, the same remark applies to the infantile mortality. Radcliffe Bridge Ward, however, continues to have a very high infant death-rate. The health visitor has done “good work,” special efforts being made to induce mothers to feed their babies by the natural method. Careful attention is paid to artificially fed babies, and instruction is given in bathing, clothing, and general management of young infants.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 21 (3 deaths), scarlet fever 158 (1 death), enteric fever 25 (7 deaths), erysipelas 27, puerperal fever 3

(1 death). Deaths from non-notifiable diseases : measles 2, whooping cough 2, diarrhoea 6. There was an increase in the number of cases of infectious disease notified as compared with the three preceding years, this being "in accordance with the usual wave of increase that has taken place every three or four years." The percentage of removals to hospital is considerably in excess of that of previous years. Scarlet fever was more or less prevalent throughout the whole year ; the disease being in the majority of cases of a very mild type, and on this account there were probably a number of unrecognised cases which tended to the spread of the disease. On examination of the scholars at one of the schools, one case in the peeling stage, and two other suspicious cases were found. The school was closed and disinfected. Diphtheria was more than usually prevalent in the latter half of the year, and enteric fever gave some trouble in October. The district was comparatively free from measles until the middle of December, when an outbreak occurred among the children attending Warth Fold school. Chicken-pox necessitated closure of this school during the month of April. Diarrhoea caused a considerable amount of sickness during the Summer and Autumn, and mumps became general among the children throughout the whole district in the latter three months of the year.

Hospital Accommodation for all diseases is provided by the Bury and District Joint Hospital Board. Cases treated : diphtheria and membranous croup 13 (2 deaths), scarlet fever 104, enteric fever 8 (1 death).

Disinfection.—Steam apparatus at hospital available. Houses fumigated and sprayed numbered 324.

Water Supply obtained from the Bury, &c., Joint Board. Complaints were again numerous respecting the dirty condition of the water.

Sewerage, Scavenging, &c.—In addition to the precipitation and filtration methods, seven bacteria beds, with automatic sprinklers, are now in use. Scavenging, as carried out by the Authority, gives satisfaction. A refuse destructor is in operation. A number of front and back streets have been paved during the year, but others in a wet, soft, and dirty condition remain to be dealt with.

Sanitary Inspection.—There is a scarcity of dwelling-houses for the working classes. Of the 52 houses reported upon last year as being in a dilapidated and insanitary condition, 6 have been voluntarily closed, 10 repaired, and the remaining 36 are being dealt with. Under the Housing of the Working Classes Act notices have been served respecting 14 other houses unfit for human habitation. Twenty back-to-back houses were converted into “through” houses. Regarding school premises one is “unsatisfactory,” and at four others the closet accommodation does not meet with approval. Bakehouses and slaughter-houses are kept cleanly, but meat inspection is made very difficult owing to the large number of small slaughter-houses in existence. Dairies and cowsheds are described as “fair.” Factories and workshops received 510 visits, and 220 visits were paid to the canal wharf, 34 boats being examined. Two hundred and one waste-water or wash-down water-closets, with 112 ashbins and 53 dry ashpits, have been substituted for 132 defective privy middens. Since 1902 conversions have numbered 967, but over 1,000 middens still exist. The Inspector (Mr. Smith) reports on a large amount of sanitary work accomplished, including the abatement of 1,469 nuisances—2 after the institution of legal proceedings. Smoke observations numbered 91; in 2 instances summonses followed, and an abatement order with £5 5s. 0d. costs was obtained in each case.

Notable sanitary improve- Conversion of privies.
ment.

Chief sanitary require- Further conversion of privies ;
ments. closing of old insanitary
dwellings, and erection of
workmen's cottages.

Rainford.—(Area in acres, 5,877 ; Estimated Population,
3,278).—*Medical Officer of Health*, FRANK PROSSER, M.B. ;
Salary, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births
1908	31·1	13·4	0·91	nil.	2·13	88
1907	34·0	14·5	2·12	0·60	2·73	116
Mean of 10 years						
1898-1907	29·3	13·8	1·49	0·61	2·33	107
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	—2·9	—1·1	—1·21	—0·60	—0·60	—28
<i>Ten Years' Average.</i>	+1·8	—0·4	—0·58	—0·61	—0·20	—19

All the mortality averages compare favourably with 1907 and with the mean of the preceding decade.

Infectious Diseases.—Cases notified : diphtheria 2, scarlet fever 2, enteric fever 3 (1 death), erysipelas 7. Deaths from non-notifiable diseases : diarrhoea 2.

Hospital Accommodation.—A cottage hospital—4 beds—is usually reserved for small-pox. One case of enteric fever (fatal) was treated there.

Disinfection.—No apparatus.

Water Supply obtained from the St. Helens Corporation.

Sewerage, Scavenging, &c.—The cesspool system is in vogue. A portion of the sewage enters the Randle brook.

Scavenging, as carried out by contract, does not give entire satisfaction, ash-pits not being emptied as regularly as they ought to be.

Sanitary Inspection.—Bakehouses, slaughter-houses, and dairies and cowsheds are described as in good order and well kept. No defects were noted on the 39 visits of inspection to factories and workshops. Thirty nuisances received attention.

Chief sanitary require- More regular scavenging.
ment.

The report is in manuscript.

Ramsbottom.—(Area in acres, 6,424; Estimated Population, 16,200).—*Medical Officer of Health*, WILLIAM DEANS, M.B.; *Salary*, £60.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	19.8	12.7	0.92	1.29	1.97	121
1907	20.0	14.1	0.67	1.35	2.96	98
Mean of 10 years						
1898-1907	20.9	14.9	1.19	1.33	2.84	120
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	—0.2	—1.4	+0.25	—0.06	—0.99	+23
<i>Ten Years' Average.</i> —	1.1	—2.2	—0.27	—0.04	—0.87	+1

The general death-rate shows a reduction as compared with 1907 and is the lowest on record, but the epidemic death-rate and infantile mortality are less favourable.

Infectious Diseases. — Cases notified: diphtheria and membranous croup 19 (6 deaths), scarlet fever 121 (3 deaths),

enteric fever 8 (2 deaths), puerperal fever 4 (1 death). Deaths from non-notifiable diseases : measles 2, diarrhoea 2. The use of anti-toxin in the diphtheria attacks has proved a "decided success." The epidemic of scarlet fever, which commenced in October, 1907, continued during the year under report, cases being notified in every month except August. Handbills were distributed calling attention to the symptoms of the disease, and to the necessity of avoiding all intercourse with people residing in infected houses, but in spite of this much of the mischief was caused by such intercourse. School closure had to be resorted to on account of outbreaks of measles in November and December.

Hospital Accommodation provided by the Bury, &c., Joint Board for all diseases. Cases treated : diphtheria 3, scarlet fever 69 (2 deaths), enteric fever 4 (2 deaths).

Disinfection.—No apparatus. Eight schools and 140 houses were disinfected with formalin.

Water Supply obtained from the Bury, &c., Joint Board.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks and on land. Extensions at the outfall works are being carried out, and contracts for a main drainage scheme have been entered into, the work now being well advanced. When completed a large number of houses can be connected up. Scavenging of the whole district is now performed by the Council's employees, and the work is more economically and better attended to than under the old contract system. The system of "tipping" refuse is not altogether satisfactory.

Sanitary Inspection.—In July a house-to-house inspection was commenced in Central Ward and completed at the end of January, 1909, about 1,200 houses having been examined. An endeavour will be made to inspect the whole of the district during the current year. Five insanitary houses were

condemned. Bakehouses, slaughter-houses, and lodging-houses are, on the whole, well kept. Dairies and cowsheds were found satisfactory as regards cleanliness. Many structural improvements have been made, but a number of the shippens are not yet up-to-date. Factories and workshops received 148 visits, and as a result several improvements were effected, chiefly as regards closet accommodation. The water-carriage system is gradually displacing the conservancy system, 118 water closets being erected during the year in lieu of midden privies. The Inspector (Mr. Fort) reports on the work of his department. Notices served numbered 47, nuisances abated 300, smoke observations 9.

Notable sanitary improve- Alterations to cowsheds.
ment.

Chief sanitary require- Abolition of privy middens ;
ments. paving of streets.

Rawtenstall (Borough).—(Area in acres, 9,535 ; Estimated Population, 32,700).—*Medical Officer of Health*, J. E. HELM, B.A., M.B. ; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·4	13·9	1·10	0·97	2·59	113
1907	22·0	15·4	0·46	1·19	3·58	136
Mean of 10 years						
1898-1907.....	23·0	15·5	1·11	0·94	3·17	137
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·4	—1·5	+0·64	—0·22	—0·99	—23
<i>Ten Years' Average.</i>	—0·6	—1·6	—0·01	+0·03	—0·58	—24

A slightly increased birth-rate is accompanied by a

general death-rate and infantile mortality the lowest on record. The rates for the various Wards are as follow :—

Ward.	Birth-rate.	Death-rate.	Infantile mortality.
North	15·26	15·26	90
West	23·39	10·68	111
Central (North)	24·09	16·85	121
Central (South)	21·98	12·77	108
South-East	25·88	14·13	106
East	21·47	11·82	127

The marked decrease in the infantile mortality was due to the reduction in the number of deaths from wasting diseases (including premature birth, congenital defects, and debility) and respiratory diseases. Dr. Helm calls attention to the significant fact, that in years when the cotton trade is bad, there is a fall in the number of deaths from wasting diseases. As a rule when an increase takes place in the number of births there is an increase in the number of infantile deaths, but in 1908, although the number of births increased as compared with the preceding three years, the infantile mortality was lower than in those years, the reason probably being that, as the cotton trade in 1908 was not so flourishing as in the three preceding years, mothers were able to stay at home and nurse their children themselves. The Council adopted the Notification of Births Act, 1907, but the Local Government Board refused their sanction, as the Council had not appointed a health visitor.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 12 (6 deaths), scarlet fever 27 (1 death), enteric fever 10 (1 death), erysipelas 25 (1 death), puerperal fever 7 (3 deaths). Deaths from non-notifiable diseases: measles 10, whooping cough 10, diarrhoea 8. There was a great decrease in the number of scarlet fever cases, and enteric fever cases were fewer than for many years. In one instance the latter disease was due to a contaminated water

supply, in another case shell-fish was the suspected cause, defective drains in three cases, and sewer-gas from a manhole placed too near a dwelling-house in one case. Measles became prevalent in the later summer months at Townsend Fold, and necessitated school closure. In spite of this and other precautionary measures the epidemic spread to Crawshawbooth, Goodshaw, Loveclough, and Newchurch, and a number of schools had to be closed. At the end of the year the epidemic was still in progress, chiefly in the Rawtenstall and Cloughfold districts. Whooping cough commenced in the autumn of 1907, and lasted until the early summer of 1908; the infants' departments of seven schools were closed in consequence during January and February. Influenza also caused some trouble in the first two months of the year.

Hospital Accommodation.—The only provision is for small-pox at The Ridge, Hareholme, 22 beds being provided.

Disinfection.—The steam apparatus at the small-pox hospital was used to disinfect 406 articles. Fifty houses and 18 schools were disinfected, the latter after the outbreaks of measles and whooping cough.

Water Supply.—About two-thirds of the houses are supplied from the reservoirs of the Bury, &c., Joint Board, situated at Clow Bridge and Clough Bottom, both within the Borough boundaries. The supply is abundant and good. There are still a great many private supplies.

Sewerage, Scavenging, &c.—Sewage is treated at the Ewood Bridge outfall works, belonging to the Haslingden, Rawtenstall, and Bacup Sewerage Board by precipitation tanks, percolating beds, and land. A different system of sewer ventilation is required, as the nuisance arising from the open manholes in some localities is very great. Scavenging is performed in a satisfactory manner by the Corporation's employees. A refuse destructor is provided.

Sanitary Inspection.—Bakehouses are described as “good,” and slaughter-houses, lodging-houses, and houses let-in-lodgings “very fair.” Dairies and cowsheds do not give satisfaction; very few of the latter are of sufficient size, and, as a rule, are badly lighted and ventilated. Regulations have been adopted, but their provisions are not strictly enforced. Factories and workshops received 320 visits; these premises on the whole are clean, well ventilated, and well lighted. Conversion of midden privies to the water-carriage system continues, 36 being altered during the year; only 113 privy middens now remain, but there are 2,238 pail closets. The Inspector (Mr. Rawling) reports on the sanitary work accomplished. Notices served amounted to 305, nuisances remedied 676, smoke observations 7.

Notable sanitary improve- Laying of sewers; paving and
ments. channelling of streets; con-
version of privies to w.c.’s.

Chief sanitary require- An isolation hospital.
ment.

Rishton.—(Area in acres, 2,985; Estimated Population, 7,500).—*Medical Officer of Health*, JOHN BARR, M.D.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·4	13·2	2·40	0·66	2·00	150
1907	18·8	9·7	0·53	0·66	2·13	85
Mean of 10 years						
1898-1907	23·3	12·4	1·69	0·82	1·95	132

*Increase or Decrease
on—*

<i>Previous Year</i>	+1·6	+3·5	+1·87	...	—0·13	+65
<i>Ten Years’ Average.</i> —	2·9	+0·8	+0·71	—0·16	+0·05	+18

The mortality statistics do not compare favourably with

those of 1907, marked increases being recorded in the general death-rate, epidemic death-rate, and infantile mortality. All these averages are higher than for some years, and exceed the mean of the decennial period 1898-1907. Dr. Barr, referring to the infant death-rate, says one of the greatest evils is the employment of mothers at the mills, the little ones being sent out to nurse, and not properly fed or cared for.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 7, scarlet fever 95 (4 deaths), enteric fever 12 (1 death), erysipelas 15, continued fever 6. Deaths from non-notifiable diseases: measles 8, diarrhoea 5. The use of diphtheritic anti-toxin proved of great value. Scarlet fever was more than usually troublesome, and the cause two extensive epidemics, one in the summer, and the other at the end of the year. Measles was very prevalent—September to November, and whooping cough during the same period gave rise to a large number of attacks.

Hospital Accommodation.—Nil. By arrangement cases are occasionally sent to the Blackburn hospitals. One case of enteric fever was removed.

Disinfection.—No proper appliances. Reference is again made to this “serious drawback” to the proper sanitary administration of the district.

Water Supply obtained from upland gathering grounds.

Sewerage, Scavenging, &c.—Sewage is dealt with in open septic tanks, sprinkler filters, and by irrigation. Scavenging is carried out by contract, the work, it is said, being performed satisfactorily.

Sanitary Inspection.—House accommodation is good, and schools are also in fair sanitary condition. Bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops, on the whole, are reported as satisfactory and

well kept. Sixty-seven privy middens were abolished and water closets provided in lieu thereof. The Inspector (Mr. Cornall) found it necessary to serve only 6 notices calling for the abatement of nuisances.

Notable sanitary improvement. Completion of new sewage works.

Chief sanitary requirement. Disinfecting apparatus.

Royton.—(Area in acres, 2,145; Estimated Population, 15,850).—*Medical Officer of Health*, RALPH YOUNG, M.D.; *Salary*, £75.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·6	18·1	1·45	0·88	3·84	139
1907	28·4	17·9	1·33	0·63	4·45	114
Mean of 10 years						
1898-1907	25·9	17·9	1·90	0·94	4·20	145
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—0·8	+0·2	+0·12	+0·25	—0·61	+25
<i>Ten Years' Average.</i>	+1·7	+0·2	—0·45	—0·06	—0·36	—6

The birth and death rates vary but fractionally from those of the preceding year, but both rates are above the mean of the decade 1898-1907. An increase, as compared with 1907, is recorded in the epidemic and infant death rates. Referring to the infantile mortality, Dr. Young states that premature birth forms by far the largest factor, and diseases of respiratory organs come next in order, the latter to a large extent being preventable.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 5 (1 death), scarlet fever 53 (5 deaths), enteric fever 1, erysipelas 8, puerperal fever 1. Deaths from non-notifiable diseases: measles 7, whooping cough 3, diarrhœa 7. Scarlet fever was most prevalent during the second quarter, and an epidemic of measles occurred during December. With regard to removal of infectious cases to hospital the same principle was adopted as in former years, viz., only to remove those cases where there was overcrowding, or where the sanitary surroundings were likely to prove an additional source of danger.

Hospital Accommodation.—Small-pox cases are treated at the joint hospital at Cinder Hill, and other infectious cases can be removed, by arrangement, to the Westhulme hospital, belonging to the Oldham Corporation. Cases treated: scarlet fever 12 (1 death), enteric fever 1.

Disinfection.—Steam appliances at the hospitals above named are available. Ninety-nine rooms were disinfected either with sulphur or formalin.

Water Supply obtained from the mains of the Oldham Corporation.

Sewerage, Scavenging, &c.—Sewage undergoes treatment in precipitation tanks, single contact beds, and either streaming filters, or on land. Certain portions of the district, for instance, Rochdale Road and Higginshaw, are still in need of a sewerage system. The “central” stream, which runs past Royton Hall, is much polluted, and the conditions mentioned in the Sanitary Inspector’s report ought to receive attention. The Authority carry out the scavenging and refuse removal. A destructor is in operation.

Sanitary Inspection.—House accommodation is hardly sufficient for the operative classes. Bakehouses are “clean and satisfactory,” and slaughter-houses “fair.” Dairies and

cowsheds are now in better condition, both as regards lighting, drainage, &c. The air space, cleanliness, and ventilation of factories and workshops are satisfactory; 175 visits of inspection were made to these premises. Only 6 privy middens exist, but there are 2,600 pail closets. Nuisances abated amounted to 116, smoke observations 25. Pressure is being exerted to prevent the excessive emission of black smoke.

Notable sanitary improvements. Prevention of black smoke nuisance; removal of tip.

Chief sanitary requirements. Purification of streams; paving of yards; street cleansing; further attention to black smoke nuisance.

St. Annes-on-the-Sea —(Area in acres, 3,342; Estimated Population, 10,564).—*Medical Officer of Health*, FRED BOOTH, M.D.; *Salary*, £90.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	14·4	10·6	0·47	0·66	1·32	111
1907	14·1	10·4	0·09	0·29	1·96	97
Mean of 10 years						
1898-1907	16·9	10·5	0·52	0·96	1·56	98

Increase or Decrease

on—

<i>Previous Year</i>	+0·3	+0·2	+0·38	+0·37	—0·64	+14
<i>Ten Years' Average</i> .—	2·5	+0·1	—0·05	—0·30	—0·24	+13

The birth-rate, with the exception of the previous year, is the lowest recorded for the district. If the deaths of 19

visitors were excluded the death-rate would be 8·8 per 1,000, exactly the same as in the two previous years. The death-rate varied from 10·6 in East Ward, 10·2 in North Ward, 9·3 in West Ward, to 6·6 in South Ward.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3, scarlet fever 33, enteric fever 11 (2 deaths), erysipelas 1, measles—notifiable in this district—93. Deaths from non-notifiable diseases: whooping cough 1, diarrhoea 2. Scarlet fever produced 21 more cases than in the previous year, and was mostly prevalent during July and August. The cases were of a very mild type, and in many instances were traced to “outside infection.” Of the enteric fever cases, one was attributed to eating cockles, another to mussels, and a third to oysters, whilst one was supposed to be due to outside infection, and another to defective drains. The prevalence of measles during the summer months, chiefly amongst the infants attending one of the schools, rendered it advisable to adopt school closure. An outbreak of food poisoning occurred during the early part of July, about 80 persons being affected, and 3 deaths resulted. The cause of the outbreak was clearly traced to the consumption of potted meat and pork pies, which had in all cases been procured from one shop, and were found on analysis to be infected with a disease producing bacillus, the bacillus enteritidis of Gaërtner. In order, if possible, to guard against outbreaks of a similar kind, the Medical Officer of Health has issued regulations to those engaged in the manufacture or sale of foods. As in former reports, the Council is advised to include phthisis amongst the compulsory notifiable diseases.

Hospital Accommodation is available at the Fylde joint hospital at Moss Side for ordinary infectious diseases, and at Elswick for small-pox. Cases treated: scarlet fever 21, enteric fever 9 (1 death).

Disinfection.—Goddard, Massey and Warner's steam apparatus provided. Three hundred and fifteen rooms were fumigated, including many after phthisis or other non-notifiable diseases. Infected articles passed through the steam apparatus numbered 1,052.

Water Supply, obtained from the Fylde Water Board, has, on the whole, been satisfactory; a few complaints, mostly of some slight turbidity, have been made.

Sewerage, Scavenging, &c.—Sewage is discharged by gravitation into the sea without previous treatment. The main drainage system has been regularly flushed, and under ordinary conditions has worked satisfactorily. The question of the better ventilation of sewers is receiving the attention of a Committee appointed for the purpose. At 125 premises the soil pipes and drains were tested, and defects remedied. Scavenging is said to have been performed more satisfactorily than in any previous year, owing, no doubt, to the larger staff of men and carts employed. A refuse destructor is provided.

Sanitary Inspection.—Improvements as regards ventilation are being carried out at one of the schools in the district, and at another enlargements have taken place to prevent overcrowding. Bakehouses—16 in number—have been periodically inspected, and on each occasion found in a cleanly condition. The public abattoirs were visited 345 times, and with only two or three exceptions the premises gave satisfaction. Diseased or unsound carcasses, organs or portions of carcasses, were condemned and destroyed at the refuse destructor. The inspection of cattle and farms in the district is performed by a veterinary surgeon, and the sanitary condition of the farms is said to be greatly improved, and much more attention is now paid to the cleanliness of the cattle and cowsheds. Factories and workshops received

126 inspections, 15 defects being discovered and put right. Privies converted to water closets or abolished during the year numbered 27. Only a very small number of privies—63—now remain, and every endeavour is being made to induce owners to convert these into water closets. The Inspector (Mr. Procter) reports the abatement of 225 nuisances as the result of 418 letters and the service of 21 notices. Smoke observations numbered 8.

Meteorological statistics are appended to the report.

Notable sanitary improve- ments.	Veterinary supervision of cows, cowsheds, and farms ; scaveng- ing carried out more satis- factorily.
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Skelmersdale.—(Area in acres, 1,942 ; Estimated Popula-
tion, 6,500).—*Medical Officer of Health*, VINCENT
O'REILLY, M.B. ; *Salary*, £45.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	33·0	20·7	2·00	0·61	4·00	204
1907	37·3	16·0	1·53	0·46	3·07	139
Mean of 10 years						
1898-1907	34·7	18·3	1·75	0·75	4·47	168
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	—4·3	+4·7	+0·47	+0·15	+0·93	+65
<i>Ten Years' Average.</i> —	1·7	+2·4	+0·25	—0·14	—0·47	+36

The statistics presented by Dr. O'Reilly are not satisfac-
tory, and compare very unfavourably with those of the previous
year and the average of the ten years, 1898-1907. The
birth-rate declined, and became the lowest for the past 7 years,
whilst the death-rate, with one exception, is higher than in

any year since 1893. The increase in the infantile death-rate is due chiefly to the large number of deaths from enteritis, gastritis, and debility.

Infectious Diseases.—Cases notified: diphtheria 1 (fatal), scarlet fever 5, enteric fever 14 (1 death), erysipelas 3. Deaths from non-notifiable diseases: whooping cough 9, diarrhoea 2.

Hospital Accommodation.—A small cottage containing 8 beds is provided for small-pox, but during the year 4 cases of scarlet fever and 8 cases (1 fatal) of enteric fever were treated there.

Disinfection.—The steam disinfector belonging to the West Lancashire Rural District Council is available. Houses are fumigated with formalin, and disinfection of the day schools is carried out monthly.

Water Supply, described as “satisfactory,” is obtained from an Artesian well.

Sewerage, Scavenging, &c.—There are two outfall works—Main and Penny Land; the method of treatment is settlement and irrigation. Scavenging is said to be performed by the Authority in a satisfactory manner.

Sanitary Inspection.—The sanitary condition of schools is described as “good.” Bakehouses (8), and slaughterhouses (3)—periodically visited—were found clean and well kept. Dairies and cowsheds—not subject to regulations—are said to be satisfactory; improvements were effected at one of the farms during the year. Thirty-eight inspections of factories and workshops were made, 5 defects being discovered and remedied. Privies converted to water closets numbered 5. The Inspector served 43 notices and secured the abatement of 35 nuisances.

Chief sanitary require- “Overhauling” of hospital.
ment.

Standish-with-Langtree.—(Area in acres, 3,266 ; Estimated Population, 6,956).—*Medical Officer of Health*, J. H. WILSON, M.D. ; *Salary*, £35.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	35·7	15·3	1·29	0·57	2·73	140
1907	30·1	19·5	4·22	0·87	2·62	144
Mean of 10 years						
1898-1907	34·6	17·7	2·51	0·77	3·24	167
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+5·6	—4·2	—2·93	—0·30	+0·11	—4
<i>Ten Years' Average.</i>	+1·1	—2·4	—1·22	—0·20	—0·51	—27

A substantial increase in the birth-rate as compared with last year is accompanied by satisfactory decreases in the general and epidemic death-rates, and the infantile mortality is slightly lower. The decrease in the death-rate is mainly accounted for by the fact that whilst 23 deaths resulted from measles during 1907, not a single death has been recorded from this disease during the year under review.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 7 (2 deaths), scarlet fever 10, enteric fever 10 (1 death), erysipelas 13, measles—notifiable in this district—7. Deaths from non-notifiable diseases : whooping cough 3, diarrhoea 3. The notifications received were considerably fewer than in the preceding year ; scarlet fever and enteric fever were less in evidence, but the most marked reduction was in measles, only 7 cases being notified as compared with 691 in 1907. Examination of the sewers of premises where diphtheria existed, revealed imperfect joints, causing an escape of sewer gas into the houses. The sewers

were overhauled, joints made tight, and ventilation shafts erected.

Hospital Accommodation.—For the isolation of small-pox cases, a cottage with 6 beds is available, and this district is associated with other Authorities under the Wigan and District Small-pox Hospital Order. For the treatment of ordinary infectious diseases there is no hospital provision.

Disinfection.—No apparatus. Houses are fumigated with sulphur. In some of the enteric fever cases the infected bedding was destroyed.

Water Supply, of good quality, is obtained from the reservoirs of the Liverpool Corporation at Rivington. Since the completion of the new reservoir at Prospect there has not been any intermission of supply such as previously gave so much trouble.

Sewerage, Scavenging, &c.—Sewage is treated by settlement, irrigation, and single contact at the Council's sewage farm. Steps are being taken to deal with those portions of the township which are not at the present time connected with the sewerage system. Flushing of the sewers is regularly carried out. Scavenging—performed in the Standish district by the Authority, and in the Lower Ground district by contract—is said to give satisfaction.

Sanitary Inspection.—Bakehouses and slaughter-houses were kept clean, and improvements have been effected at some of the latter premises. Dairies and cowsheds received attention from time to time, and, whilst much has been done towards improving these premises, a few remain which do not fulfil requirements. Only one defect was discovered as the result of 24 inspections of factories and workshops. The Inspector (Mr. Shepherd) served 11 notices and secured the abatement of 76 nuisances.

Stretford.—(Area in acres, 3,240 ; Estimated Population ; 43,000).—*Medical Officer of Health*, W. J. HESLOP, F.R.C.S., Edin. ; *Salary*, £150.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·7	11·3	1·00	0·72	1·79	103
1907	21·7	12·1	0·62	0·79	2·46	96
Mean of 10 years						
1898-1907	21·4	13·3	1·21	0·94	2·33	126

Increase or Decrease on—

<i>Previous Year</i>	—1·0	—0·8	+0·38	—0·07	—0·67	+7
<i>Ten Years' Average.</i>	—0·7	—2·0	—0·21	—0·22	—0·54	—23

A decline in the birth-rate is accompanied by a death-rate which is the lowest recorded for the district. The infantile mortality rate, with the exception of 1907, is also below any previous year. The Notification of Births Act has been adopted by the Council. The following table gives the averages, &c., for the various sub-districts :—

Ward.	Persons per acre.	Birth-rate.	Death-rate.	Epidemic Death-rate.
Stretford	10·2	21·1	10·9	1·1
Longford	6·8	24·1	11·9	1·2
Talbot	9·1	20·8	8·4	nil.
Trafford	40·7	16·1	10·7	0·2
Cornbrook.....	21·5	16·2	13·5	2·7
Clifford	122·4	17·4	11·5	1·5
Park	4·5	40·7	16·4	1·5

Infectious Diseases.—Cases notified : diphtheria and membranous croup 40 (6 deaths), scarlet fever 137 (4 deaths), enteric fever 11 (2 deaths), erysipelas 15, puerperal fever 2 (1 death). Deaths from non-notifiable diseases : measles 4, whooping cough 13, diarrhœa 14. Scarlet fever had a

slightly increased prevalence as compared with the previous year. Little information is given in the report as to the action taken to prevent the spread of infectious diseases. Specimens from the following cases were submitted for bacteriological examination during the year, viz. :—diphtheria 28, enteric fever 15, tuberculosis 19. Six of the diphtheria and 4 of the enteric fever specimens gave positive results ; whilst of the 19 samples of sputa 10 proved to be tuberculous. The Council supply diphtheritic anti-toxin to medical practitioners free of charge.

Hospital Accommodation is provided at the Salford Corporation hospitals—at Ladywell (Eccles) for ordinary infectious diseases, and at Drinkwater Park (Prestwich) for small-pox. Cases treated : diphtheria and membranous croup 12 (2 deaths), scarlet fever 62 (2 deaths), enteric fever 6 (2 deaths), erysipelas 1, puerperal fever 1.

Disinfection. — The steam apparatus (Washington Lyon's) was used for the disinfection of 2,012 articles. Rooms fumigated numbered 436, and in 84 instances the walls were stripped and afterwards washed down with a solution of disinfecting fluid.

Water Supply obtained mainly from the Manchester Corporation. The water from three wells in the district has been condemned as unfit for domestic use, and notices have been served requiring the provision of a supply of good wholesome water.

Sewerage, Scavenging, &c.—Part of the sewage of the district is dealt with by the Manchester Corporation ; the remainder undergoes treatment at the Council's sewage farm by broad irrigation. Twenty sewer ventilating shafts have been erected during the year. Examinations of house drains resulted in 164 defects being found out of 472 drains

tested (old property), and 478 defects out of 1,018 drains tested (new property). Four hundred and fifty-nine sanitary fittings in new property were examined, and no less than 138, or 30 per cent., were not satisfactory. Scavenging, carried out under the supervision of the Council's officials, is said to be performed in a satisfactory manner, the refuse being burnt in the destructor.

Sanitary Inspection.—The consideration of the recommendations of the Medical Officer of Health relating to 20 houses referred to in last year's report as unfit for occupation, has been deferred, owing to circumstances connected with the erection of a further instalment of cottages in continuation of the housing scheme of the Council. Bakehouses—40 in number, of which 4 are underground, gave satisfaction. Slaughter-houses (8) are said to be well kept, but Dr. Heslop will “welcome the time when the Council can see its way to provide a public slaughter-house.” Over 700 lbs. of diseased or unsound meat was destroyed, and also a quantity of fruit, &c. Special attention has been given during the year to premises where the preparation of food-stuffs is carried on, and a circular letter pointing out the dangers of uncleanness, &c., was issued to the occupiers of these premises. Dairies and cowsheds have been regularly visited, and on the whole found to be satisfactory. Six hundred and seventy-one inspections of factories and workshops were made, and as a result 33 defects were found and remedied. Privy middens abolished numbered 126; there are still 34 double and 93 single wet privy pits. The Inspector (Mr. Nuttall) found it necessary to issue 299 preliminary and 33 legal notices for the abatement of nuisances. Of 159 smoke observations taken, 12 exceeded the time limit of four minutes per hour; proceedings were taken against 2 of the offenders, and a conviction obtained in each case.

Chief sanitary requirement. Public abattoir.

Swinton and Pendlebury.—(Area in acres, 2,282 ; Estimated Population, 29,885).—*Medical Officer of Health*, SAMUEL HOSEGOOD, M.R.C.S. ; *Salary*, £110.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	26·8	14·7	2·17	1·13	3·11	154
1907	26·7	15·6	0·98	1·48	3·85	107
Mean of 10 years						
1898-1907	30·3	17·8	2·93	0·83	4·14	174
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·1	—0·9	+1·19	—0·35	—0·74	+47
<i>Ten Years' Average.</i> —	3·5	—3·1	—0·76	+0·30	—1·03	—20

The birth-rate is practically the same as last year, whilst the death-rate is reduced almost one per thousand of the population. The epidemic death-rate and the infantile mortality each show a considerable rise as compared with 1907. The ward birth-rates varied from 36·5 per 1,000 in East Ward to 20·07 in Old Park Ward, and the death-rate from 24·2 in East Ward to 9·3 in Moorside Ward. The highest infant death-rate was attained in East Ward (202), and the lowest in Moorside Ward (72), and these two wards were respectively the highest and lowest both in the epidemic and respiratory death-rates. Dr. Hosegood reports that the work of the health visitor has proved a most valuable auxiliary to the efforts of the Sanitary Department in combating the ignorance prevailing as to the feeding, clothing, &c., of young infants. Over 3,000 visits have been paid to houses where births have taken place. The Notification of Births Act came into operation on February 1st, and some 700 notifications have been received.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 20 (3 deaths), scarlet fever 198 (2 deaths),

enteric fever 37 (7 deaths), erysipelas 30, puerperal fever 1. Deaths from non-notifiable diseases : measles 4, whooping cough 18, diarrhoea 31. The scarlet fever epidemic first began in East Ward, probably through two or three unrecognised cases affecting the scholars at a local school, and the disease spread to a somewhat alarming extent. Although precautionary measures were promptly taken the epidemic seriously affected other parts of the district, but the ward named suffered most. School closure was not adopted, but scholars showing the least premonitory symptoms of the disease were at once excluded. The Council supply diphtheritic anti-toxin to medical practitioners free of charge, and when considered necessary specimens are sent for bacteriological examination.

Hospital Accommodation.—By arrangement with the Salford Corporation, cases of infectious disease, other than small-pox, may be sent to the Ladywell sanatorium. For small-pox a hospital with 20 beds is provided jointly with Worsley at Linnyshaw Moss. Cases treated : diphtheria 1, scarlet fever 31, enteric fever 10 (2 deaths).

Disinfection.—Disinfecting apparatus is about to be supplied in connection with a refuse destructor. The whole of the public elementary schools have been fumigated three times, and 301 rooms were disinfected after infectious disease.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—Sewage is treated at two outfall works, viz. : Swinton, by precipitation tanks and double contact beds ; and at Pendlebury, by precipitation tanks, percolating beds, and sedimentation. A large number of drains were examined and tests applied, 198 defects being discovered. The Authority carry out scavenging in a satisfactory manner. The provision of a refuse destructor is

likely soon to be an accomplished fact, as tenders have been obtained for its erection. A "tip" at Swinton, formerly much complained of, has been closed.

Sanitary Inspection.—House-to-house inspection has been continued, but pressure of other work has prevented it being carried out to the extent desired. The general sanitary condition of the district shows "evidence of improvement in many respects, and much energy has been shown in remedying defects of long standing." Schools on the whole are in good sanitary condition, the chief defects being unpaved playgrounds. Bakehouses are well kept, and slaughter-houses "fair." Dairies and cowsheds were found satisfactory, and few defects were noticed on the 252 visits to factories and workshops. In the past six years 1,090 water closets have been substituted for privies (272 in 1908), but the latter, however, still largely prevail, some 3,418 being in existence at the end of the year. The Inspector (Mr. Bleakley) reports on the sanitary work carried out in his department, which included the following:—

House drains re-laid and repaired ..	221
Down-spouts repaired, &c.	84
Ashbins provided in lieu of ashpits.	221
Slop pipes repaired and renewed ..	185
Water closets repaired, &c.	218
Legal notices served	263
Nuisances abated	1621
Smoke observations	100

Notable sanitary improvements.	Substitution of w.c.'s for privies ; re-draining of old premises ; erection of ventilating shafts to drains.
Chief sanitary requirements.	Abolition of privy middens ; pro- vision of sanitary public con- veniences.

Thornton.—(Area in acres, 2,996 ; Estimated Population, 4,408).—*Medical Officer of Health*, F. S. RHODES, M.R.C.S. ; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25·6	13·6	1·58	0·22	1·58	88
1907	27·1	10·1	0·47	0·94	1·65	69
Mean of 8 years						
1900-1907	30·4	12·9	1·11	0·48	2·13	106

Increase or Decrease on—

<i>Previous Year</i>	—1·5	+3·5	+1·11	—0·72	—0·07	+19
<i>Eight Years' Average</i> —	4·8	+0·7	+0·47	—0·26	—0·55	—18

A further decline in the birth-rate is recorded, whilst the death-rate shows an increase of 3·5 per 1,000 over the average for 1907. The former rate varied from 43·9 in North Ward to 12·9 in West Ward, while North Ward had the highest death-rate 18·9, and South Ward the lowest 10·6. The epidemic death-rate is above the average of preceding years, mainly owing to fatality from measles.

Infectious Diseases.—Cases notified : scarlet fever 2, erysipelas 3. Deaths from non-notifiable diseases : measles 5, diarrhoea 2. Measles occurred in epidemic form, but was practically confined to North and South Wards. The disease was introduced by children who attended school in a neighbouring district where it was prevalent in epidemic form. School closure was advised and adopted. In March the Council authorised the Medical Officer of Health to procure anti-toxin for use in cases of urgency, and the arrangement for bacteriological examinations was continued. The effect of the supervision of midwives by the County Authority is said to have “robbed the lying-in period of some of its dangers.”

Hospital Accommodation provided for small-pox at Elswick, and for other infectious diseases at Moss Side (Fylde joint). One case of scarlet fever treated.

Disinfection.—No apparatus, house fumigation relied upon.

Water Supply, with the exception of a few outlying farms, is derived from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage from the greater part of the district is discharged near dead-low water into the Irish Sea in the Bispham area. Certain parts of the district require sewerage. The erection of ventilating shafts and the covering of the open surface grids have been beneficial in so far that practically no offensive smells have been noticed. In hot weather flushing of sewers is regularly and systematically carried out. The main watercourses are now almost free from sewage, but a dyke in West Ward became a source of nuisance during the summer owing to sewage pollution. Scavenging, performed by contract, on the whole has been carried out satisfactorily.

Sanitary Inspection.—House accommodation is good, with a sufficiency of open space around the dwellings. Three cases of overcrowding in North Ward were dealt with. Bake-houses and slaughter-houses appear to be in good condition, and dairies and cowsheds are improving, but a number of the latter premises still require alteration. Factories and workshops on the whole are well kept as regards cleanliness, and the closet accommodation, with one exception, is sufficient and suitable. The Inspector (Mr. Fenton) secured the abatement of 31 nuisances after the service of 28 notices.

Chief sanitary require-	Extension of sewers ; disinfecting
ments.	apparatus.

Tottington.—(Area in acres, 2,543 ; Estimated Population, 6,925).—*Medical Officer of Health*, A. H. POOLE, L.R.C.P.E. ; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	16·3	12·9	0·14	1·15	2·16	97
1907	21·6	12·0	0·58	0·73	2·64	74
Mean of 9 years						
1899-1907	19·6	14·2	1·20	0·85	3·12	102
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—5·3	+0·9	—0·44	+0·42	—0·48	+23
<i>Nine Years' Average</i> —	3·3	—1·3	—1·06	+0·30	—0·96	—5

The birth-rate is the lowest recorded since the creation of the Urban District, and the same remark applies to the epidemic death-rate. The general, phthisis, and infant death rates are in excess of 1907.

Infectious Diseases.—Cases notified : diphtheria 1, scarlet fever 11, enteric fever 4, erysipelas 2. From non-notifiable disease : whooping cough 1 death. One of the enteric fever cases was traceable to sanitary defects, and one was contracted outside the district. Measles became prevalent during the last two months of the year, and in consequence one of the schools was closed two weeks before the usual Christmas vacation. School closure was also rendered necessary by an outbreak of chicken-pox in July.

Hospital Accommodation provided at the Bury, &c., joint hospitals. Cases arising in the Holly Mount Poor Law schools are isolated in the hospital attached to that institution. Cases treated : diphtheria 1, scarlet fever 8, enteric fever 2.

Disinfection.—The steam apparatus of the Bury Corporation is available. Eight houses and 3 schools were fumigated with sulphur.

Water Supply, derived from the Bury, &c., Joint Board, has been satisfactory as regards quantity, but the quality has periodically been somewhat indifferent, due probably to defects in the distributory mains. The Hawkshead district still complains of scarcity.

Sewerage, Scavenging, &c.—Sewage is treated at three outfall works, viz., at Tottington, by precipitation tanks and land; Hollymount, by precipitation tanks, percolating bed, and land; and at Greenmount by streaming filter. Additions have been made during the year to the existing drainage and sewerage system. The removal of house refuse is done under contract, and has been carried out in a satisfactory manner, complaints being fewer than usual.

Sanitary Inspection.—No serious sanitary defects were noted on the inspection of bakehouses and slaughter-houses. The farms in the district have been visited periodically; one cowshed was rebuilt, and improvements carried out at three others. Factories and workshops received 56 visits, the premises being found in good condition. Although 740 privy middens exist only 2 were converted during the year. The Inspector (Mr. Kenyon) reports the abatement of 166 nuisances. Twelve smoke observations were taken.

Notable sanitary improve-	Extension of sewers.
ment.	

Chief sanitary require-	Extension of drainage system in
ment.	Greenmount and Hawkshaw
	districts.

Trawden.—(Area in acres, 6,815; Estimated Population, 2,910).—*Medical Officer of Health*, GEORGE SKEEN, M.B.; Salary, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	29·8	17·1	0·34	1·03	4·81	91
1907	23·9	18·7	0·34	1·38	3·12	115
Mean of 10 years						
1898-1907	25·5	14·7	1·20	1·07	2·77	140
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+5·9	—1·6	...	—0·35	+1·69	—24
<i>Ten Years' Average.</i>	+4·3	+2·4	—0·86	—0·04	+2·04	—49

The most noticeable feature of the statistics is the increase in the birth-rate, which is nearly 6 per 1,000 above last year's average, and 4·3 above the mean of the ten years 1898-1907. A decrease is recorded in the death-rate and infant mortality.

Infectious Diseases.—Cases notified: scarlet fever 10, enteric fever 1 (fatal). Deaths from non-notifiable diseases: nil. Dr. Skeen protests against the habit of school teachers sending children with notes to houses to enquire as to the cause of non-attendance of absentees. The houses so visited may contain a case of measles or some other infectious disease, and the messenger runs a considerable risk of infection which would otherwise be avoided.

Hospital Accommodation.—Nil. Cases of small-pox may, by arrangement, be removed to the Colne Borough hospital.

Disinfection.—No apparatus.

Water Supply, excellent and abundant, obtained from a boring in Boulsworth hill.

Sewerage, Scavenging, &c.—Sewage is treated by continuous precipitation and irrigation. Removal of refuse

is undertaken by the Authority, abandoned quarries being used as tipping places.

Sanitary Inspection.—House accommodation on the whole is good, but a few old houses still exist. Bakehouses and slaughter-houses are well conducted, but the cowsheds show no material improvement in their condition or surroundings. Dairy and cowshed regulations have been adopted and came into operation in March; so far, unfortunately, their provisions have not been enforced. A further improvement is reported in regard to factories and workshops; 159 visits were made to these premises. Six midden privies were converted to the water-carriage system; only 21 now remain. Five notices were required for nuisance abatement.

Notable sanitary improvement. Better closet accommodation in factories and workshops.

Chief sanitary requirement. Greater attention to farm premises.

Turton.—(Area in acres, 17,335; Estimated Population, 12,710).—*Medical Officer of Health*, JAMES ROBINSON, M.D., L.S.Sc.; *Salary*, £60.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	17·7	13·2	0·39	0·70	2·59	124
1907	18·2	11·6	0·47	0·47	2·60	95
Mean of 10 years						
1898-1907	20·7	12·4	1·07	0·78	2·62	93
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—0·5	+1·6	—0·08	+0·23	—0·01	+29
<i>Ten Years' Average.</i> —	3·0	+0·8	—0·68	—0·08	—0·03	+31

A fractional decrease in the birth-rate took place, whilst

the death-rate is higher than for five years past. The infantile mortality also is above the average of previous years, the principal factors being the larger number of premature births, and the higher proportion of deaths from bronchitis. The averages of the various sub-divisions are given below :—

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Infantile Mortality.
Turton.....	16·5	13·6	0·28	0·74	2·31	139
Edgworth	17·3	11·1	nil.	0·77	0·77	66
Bradshaw	20·9	13·1	0·87	nil.	6·55	104
Belmont	19·5	16·1	nil.	1·15	1·15	235

Infectious Diseases.—Cases notified : diphtheria and membranous croup 7 (1 death), scarlet fever 18, enteric fever 3, erysipelas 8. Deaths from non-notifiable diseases : measles 1, whooping cough 1, diarrhœa 2. Four of the diphtheria attacks were traceable to defective drains or insanitary closets, and several of the scarlet fever cases were traced to personal contact. Measles became prevalent in Egerton Ward during April and May, and in the Bradshaw and Chapel-town Wards in December. As the disease continued to spread, in spite of the schools being closed for the Christmas holidays, further closure had to be resorted to. Whooping cough was prevalent during the whole year in all parts of the district.

Hospital Accommodation.—The only isolation arrangement is an agreement with the Bury, &c., Joint Board for the use of two beds at the Ainsworth small-pox hospital.

Disinfection.—No apparatus. Twenty-seven houses and 11 schools were fumigated with sulphur.

Water Supply is obtained from the Bolton Corporation waterworks, with the exception of a few outlying farms and cottages, which are supplied from springs and shallow wells. The condition of the supply to the main part of the district

in respect of purity was satisfactory, but the dangerous plumbo-solvent tendency specially mentioned last year has continued during the whole of the year. Much attention has been given to this matter, which it is hoped will have a satisfactory result.

Sewerage, Scavenging, &c.—Sewage undergoes treatment at three outfall works, viz., Belmont, septic tanks and streaming filters; Bradshaw, precipitation tanks and land; Eagley, precipitation tanks and single contact beds. The smoke test was applied to 341 drains, 209 house drains were reconstructed or repaired, and 129 house drains trapped. The scavenging of that part of the district under the control of the Authority has been satisfactory, but in the Edgworth, Entwistle, Quarlton, Harwood, Longworth, and Belmont localities, where owners of property are responsible for the emptying of ashpits the work is not always properly performed. To ensure uniformity and efficiency the Council is recommended to include all these localities in its scavenging area.

Sanitary Inspection.—A number of minor defects at bakehouses, slaughter-houses, and factories and workshops were remedied on attention being drawn thereto. Inspections of these premises numbered 57, 297, and 133 respectively. Improvements have also been effected at a number of the cowsheds and farm premises. Sixty-nine objectionable midden privies were replaced by the water-carriage system. Notices served amounted to 136, nuisances abated 126, smoke observations 79.

Chief sanitary requirements.

Abolition of ashpit system; scavenging of whole district by the Authority; hospital for the treatment of infectious diseases.

Tyldesley-with-Shakerley.—(Area in acres, 2,490 ; Estimated Population, 17,000).—*Medical Officer of Health*, B. BLAKEMORE, M.R.C.S. ; *Salary*, £80.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	29·2	15·7	2·00	0·64	2·64	144
1907	27·4	15·3	2·02	0·71	3·40	187
Mean of 10 years						
1898-1907	31·9	16·8	2·85	0·64	3·56	178

Increase or Decrease

on—

<i>Previous Year</i>	+1·8	+0·4	—0·02	—0·07	—0·76	—43
<i>Ten Years' Average</i> .	—2·7	—1·1	—0·85	...	—0·92	—34

For three years the birth-rate has shown an upward tendency, but unfortunately the death-rate also has increased during the same period, but only fractionally. The infantile mortality shows a considerable reduction on last year's average, and the adoption of the Notification of Births Act, coupled with the work of a health visitor, will, it is hoped, tend to a further reduction. The health visitor reports that an improvement is noticeable in the general habits of the inhabitants "Greater attention is paid to the proper clothing and feeding of infants, and the use of tinned milk has lately shewn a marked decrease. The value of ventilation and fresh air as safeguards to health are beginning to be appreciated, and the consequence of this gradual enlightenment is shewn in the continued lowering of the infant death-rate."

Infectious Diseases.—Cases notified : diphtheria and membranous croup 14, scarlet fever 96 (6 deaths), enteric fever 82 (13 deaths), erysipelas 17, puerperal fever 2. Deaths from non-notifiable diseases : measles 2, diarrhœa 13. Scarlet fever had its greatest prevalence in March, and West Ward

suffered most. There was a serious outbreak of enteric fever in the latter half of the year, and a special report is presented on the subject. In 10 of the 54 cases occurring at this period of the year there is a history of eating mussels or oysters, in 6 cases personal infection was considered responsible for the attacks, and suspicion was thrown on the water supply, which on analysis proved to be unsatisfactory. Strict precautions were taken to prevent the spread of the disease, which died out at the end of November. Dr. Blakemore urges his Council to "continue their persistent efforts to rid the district of these recurring outbreaks by insisting on thorough scavenging, scrupulous cleanliness, immediate removal of all fly-breeding and soil-contaminating filth"; and he adds that the contemplated purchase of a refuse destructor would undoubtedly assist in this respect, as would also a strict watch on the food and water supply.

Hospital Accommodation is provided at the Leigh, Atherton, and Tyldesley joint sanatorium at Astley. Cases treated: scarlet fever 72 (5 deaths), enteric fever 64 (11 deaths).

Disinfection.—Steam disinfector at the hospital available. The whole of the schools and 190 houses were disinfected either with formalin or sulphur.

Water Supply obtained from the Manchester Corporation. From some temporary cause the water at one period of the year became "both physically and bacteriologically bad." Attention was immediately drawn thereto, and the Corporation gave an assurance that everything was being done to remedy at the earliest possible moment the unsatisfactory state of the water.

Sewerage, Scavenging, &c.—Sewage is treated in precipitation tanks, single contact beds, and on land. Extensions and alterations have taken place at the outfall works. The Authority undertake scavenging, the work being performed satisfactorily.

Sanitary Inspection.—One house was condemned as unfit for habitation. Bakehouses (23) are kept clean, and slaughter-houses said to be in fairly good condition. Lodging-houses—under constant supervision—have been improved. Dairies and cowsheds, with one or two exceptions, are in a “very fair condition as regards limewashing and general cleanliness.” Factories and workshops received 102 visits, only 11 defects being noted. During the last 7 years 605 privy middens—114 in 1908—have been abolished and the water-carriage system substituted, but 1,933 still remain. As stated above, until the majority of these objectionable receptacles are converted, a danger to health is ever present. Notices served amounted to 432, nuisances abated 397, smoke observations 14.

Chief sanitary require- Refuse destructor ; disinfecting
ments. apparatus.

Ulverston.—(Area in acres, 3,172 ; Census Population, 10,064).—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H. ; *Salary*, £105.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·7	15·6	1·39	0·99	2·88	105
1907	20·8	14·9	1·09	1·58	1·88	104
Mean of 10 years						
1898-1907	24·7	15·9	1·12	1·09	2·86	116
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	+0·9	+0·7	+0·30	—0·59	+1·00	+1
<i>Ten Years' Average.</i> —	3·0	—0·3	+0·27	—0·10	+0·02	—11

The decline in the birth-rate, which has been taking place since 1903, was arrested during the year under review, but the

death-rate was rather less favourable, and the epidemic death-rate also showed an upward tendency. The infantile mortality was practically the same as last year.

Infectious Diseases.—Cases notified: diphtheria 4 (2 deaths), scarlet fever 5 (1 death), erysipelas 1. Deaths from non-notifiable diseases: measles 2, diarrhœa 9. During the last three years very few cases of infectious disease have been notified, the totals being 10, 8, and 10 respectively, as compared with 39, 115, 187, and 231 in the four preceding years. As regards what may be called the minor infectious diseases, viz., measles, whooping cough, chicken-pox, and mumps, the district in 1908 has enjoyed an almost entire immunity from attack.

Hospital Accommodation for ordinary infectious diseases provided at the joint hospital at High Carley. For small-pox cases an arrangement has been made with the Barrow Corporation. Cases treated: scarlet fever 2.

Disinfection.—No apparatus. Four houses fumigated.

Water Supply for the greater part of the district satisfactory both as regards its quality and quantity. A number of dwellings depend upon shallow wells—an undesirable source of supply.

Sewerage, Scavenging, &c.—Sewage of one portion of the district flows into tanks, and after subsidence is discharged into the sea, and from another part it runs direct to the coast. Sixty-three house drains were tested, 7 being found defective. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—A number of the “common yards” are still in need of attention and it is hoped no further delay will take place in their repair and cleansing. Bakehouses are “fair,” and slaughter-houses generally speaking are also kept in fair order, but none of them either as regards position

or their structural conditions satisfy the requirements of modern sanitation. The three existing lodging-houses call for little comment; one, previously reported as unsatisfactory, has been closed. The condition of dairies and cowsheds is "above the average." Inspections of factories and workshops amounted to 195; privy closets converted 25, notices served 28.

Upholland.—(Area in acres, 4,686; Estimated Population, 5,005).—*Medical Officer of Health*, J. LLOYD JOHNSTONE, M.R.C.S.; *Salary*, £50.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	32·9	16·3	1·79	0·39	2·59	139
1907	30·1	15·1	1·19	0·59	2·39	185
Mean of 10 years						
1898-1907	33·9	17·0	1·97	0·88	3·52	136

Increase or Decrease

on—

<i>Previous Year</i>	+2·8	+1·2	+0·60	—0·20	+0·20	—46
<i>Ten Years' Average</i>	—1·0	—0·7	—0·18	—0·49	—0·93	+3

The birth-rate shows an improvement as compared with the previous year, but the death-rate is not quite so favourable. The most marked feature in the statistics for the year under review is the decline in the infantile mortality, but at the same time, Dr. Johnstone remarks, "it is not pleasant to learn the proportion of deaths to births in regard to illegitimate children, six of whom died out of seven born, and in each case the death was one of a preventive character, there being a certain amount of lack of care and attention in the management of the infants."

Infectious Diseases.—Cases notified : diphtheria and membranous croup 31 (3 deaths), scarlet fever 2, enteric fever 10, erysipelas 3, puerperal fever 1 (fatal), measles—notifiable in this district—11. Deaths from non-notifiable diseases : whooping cough 5, diarrhoea 1. Diphtheria appeared in the district, principally at Holland Moor, towards the end of 1907, and continued epidemic in that locality until the middle of May, and in other parts of the neighbourhood until the end of July. The school at Holland Moor was closed from the end of December, 1907, to the end of June, 1908, and during this period structural alterations were carried out in the infant department. A number of swabs of throat secretions were taken from children attending this school, and submitted for bacteriological examination, but in only one instance were “suspicious bacilli” found. No very satisfactory origin could be attributed to the cases of enteric fever, which occasioned more attacks than for some years. Whooping cough proved troublesome in Digmoor in March and April, and necessitated closure of the school in the latter month. Measles appeared in the northern part of the township in April and May, but no fatalities resulted.

Hospital Accommodation.—A tent is provided for small-pox, and a cottage at Dig Moor for other infectious diseases. As in the two previous years no cases were removed. This district is one of the constituent authorities under the Wigan and District Small-pox Hospital Order.

Disinfection.—No apparatus.

Water Supply continues excellent both in quantity and quality, though varying in hardness.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks and by filtration at three separate outfall works, viz., Digmoor, Holland Moor, and “Main.” A new sewer has been laid and works partially completed for the treatment of the

sewage of the Crawford Village portion of the district. Scavenging is satisfactorily performed under the supervision of the Authority.

Sanitary Inspection.—The sanitary condition of schools is said to have “improved of recent years.” Bakehouses are described as “good,” and slaughter-houses “offer no cause for complaint.” Dairies and cowsheds were found to be regularly cleansed and limewashed. Thirty-seven visits were paid to factories and workshops, and the sanitary conditions found quite satisfactory. The closet accommodation of the district is mainly on the privy midden system. Notices served numbered 34 and nuisances remedied 48.

Notable sanitary improvement.	Sewage disposal plant at Tontine abandoned and sewage conveyed to “Main” works.
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Urmston.—(Area in acres, 992; Estimated Population, 8,000).—*Medical Officer of Health*, G. E. FRYER, M.R.C.S.; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·2	12·3	1·37	0·87	2·12	92
1907	22·0	12·5	0·51	0·89	2·17	87
Mean of 10 years						
1898-1907	22·6	12·4	1·54	0·76	2·17	121
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—1·8	—0·2	+0·86	—0·02	—0·05	+5
<i>Ten Years' Average.</i> —	2·4	—0·1	—0·17	+0·11	—0·05	—29

The birth-rate again declined, being the lowest recorded

for the district. The epidemic and infant rates exceeded those for 1907, but the other mortality averages are slightly more favourable.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3, scarlet fever 10 (2 deaths), enteric fever 2 (both fatal), erysipelas 1. Deaths from non-notifiable diseases: measles 1, whooping cough 2, diarrhoea 4. The Medical Officer of Health says there are good grounds for believing that the first enteric fever case was contracted outside the district, whilst the second person attacked was a relative who assisted in nursing the first case, before the nature of the disease had manifested itself. Arrangements have been made for bacteriological examinations in suspected cases of diphtheria and enteric fever, and also for the examination of sputum in cases of suspected tuberculosis.

Hospital Accommodation for small-pox is available at the Drinkwater Park hospital, and for other infectious diseases at Ladywell, both belonging to Salford. Cases treated: scarlet fever 6 (2 deaths), enteric fever 1 (fatal).

Disinfection.—Clothing, bedding, &c., is disinfected by steam at the Ladywell sanatorium.

Water Supply excellent in quality, obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—Sewage purification is under the control of the Urmston and Flixton Joint Committee, the treatment consisting of septic tanks, streaming filters, and land. The Mersey and Irwell Joint Committee had cause to complain of an unsatisfactory effluent from these works. Carr's ditch has been cleansed, "but cesspools from the adjoining district still discharge into it." Scavenging performed by the Council's employees—team labour being supplied by contract—is said to give satisfaction.

Sanitary Inspection.—The sanitary condition of schools, bakehouses, and slaughter-houses is described as “good,” whilst dairies and cowsheds were found to be much the same as in previous years, in many cases the air space being deficient. Forty-four inspections of factories and workshops were made, 7 defects being discovered and remedied. There are 458 privy middens in the district, no conversions having taken place during the year. Seventy-nine nuisances were abated after the service of 23 notices.

Walton-le-Dale.—(Area in acres, 4,658 ; Census Population, 11,271).—*Medical Officer of Health*, R. TRIMBLE, M. D., D.P.H. ; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·6	15·0	1·33	0·62	2·48	163
1907	28·8	15·9	0·79	1·06	3·72	98
Mean of 10 years						
1898-1907	26·7	15·8	1·93	1·03	2·53	141
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	—1·2	—0·9	+0·54	—0·44	—1·24	+65
<i>Ten Years' Average.</i>	+0·9	—0·8	—0·60	—0·41	—0·05	+22

Although the death-rate is reduced as compared with 1907, both the epidemic death-rate and the infantile mortality are much less favourable, the latter being 22 per 1,000 above the average of the preceding ten years.

Infectious Diseases.—Cases notified : scarlet fever 5, enteric fever 15 (2 deaths), erysipelas 4. Deaths from non-notifiable diseases : measles 9, diarrhoea 4. There was a marked decrease in the number of infectious cases as compared with last year—24 against 61. Bamber Bridge produced 9

attacks, Lostock Hall and Walton-le-Dale 5 each, School Lane 2, and one each in Hoghton Lane, Higher Walton, and Kellett Lane. At varying periods of the year measles became epidemic in School Lane, Bamber Bridge, Brownedge, and Lostock Hall, and a number of schools were closed. Dr. Trimble states that in his opinion school closure is not attended with success commensurate with the inconvenience suffered by parents and teachers and the educational disadvantages to the children. In the months of February and March the district was visited by a severe epidemic of influenza.

Hospital Accommodation available for all diseases. The Bradkirk hospital—8 beds—is reserved for small-pox ; other diseases are treated at the School Lane hospital—20 beds. Cases removed : enteric fever 5 (2 deaths).

Disinfection.—Hot-air chamber provided. Ten houses were fumigated.

Water Supply.—Part of the district is supplied from the Thirlmere main belonging to the Manchester Corporation, and part from a deep well at Brindle.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. Scavenging—carried out partly by the Authority and partly by contract—on the whole gives satisfaction. Occasionally complaints are made that the pail closets are not emptied with sufficient frequency.

Sanitary Inspection.—Many back yards connected with cottage property still “call for urgent attention.” Bake-houses, slaughter-houses, dairies and cowsheds, are mostly in good order, but the surroundings of one farm, owing to the keeping of a large number of pigs, &c., were found “in a most insanitary condition.” All the factories, with the exception of one that is now receiving attention, have been brought up to modern sanitary requirements. Fifty-nine midden privies

and 6 pail closets underwent conversion to the water-carriage system. Sixty-seven notices were served calling for the abatement of nuisances.

Chief sanitary require- Provision of a refuse destructor.
ment.

Wardle.—(Area in acres, 3,192; Estimated Population, excluding Public Institutions, 4,200).—*Medical Officer of Health*, G. MACGILL, L.R.C.P.E. ; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	14·5	11·9	1·19	1·19	1·19	81
1907	14·8	13·6	1·21	0·73	3·41	196
Mean of 10 years						
1898-1907	17·3	13·0	0·99	0·85	2·86	143
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	—0·3	—1·7	—0·02	+0·46	—2·22	—115
<i>Ten Years' Average.</i> —	2·8	—1·1	+0·20	+0·34	—1·67	—62

The births and deaths occurring in the Dearnley Workhouse, belonging to the Rochdale Corporation, are excluded from the statistics. A further decline in the birth-rate took place, whilst satisfactory reductions are noted in the general and infant death-rates, the latter being the lowest on record.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 6 (1 death), scarlet fever 17 (1 death), enteric fever 2, erysipelas 1. Deaths from non-notifiable diseases: measles 2, diarrhoea 1. On May 25th a case was reported as “small-pox” in the tramp ward of the Workhouse, and the patient was at once removed to the small-pox hospital of the Rochdale Corporation, but subsequent observation did

not confirm the diagnosis. The scarlet fever cases, excepting one, were confined to the upper portion of the district, and both schools there were closed. The lower portion of the district suffered from an outbreak of measles, school closure being rendered necessary to curtail its spread. During February and March influenza was very prevalent, with peculiar patchy sore throats, but in no case did it prove fatal.

Hospital Accommodation for diseases other than small-pox provided by the Littleborough, Milnrow, and Wardle Joint Hospital Committee. Cases treated: diphtheria 2, scarlet fever 9 (1 death).

Disinfection.—Apparatus at hospital available.

Water Supply plentiful and of good quality, obtained from the Rochdale Corporation.

Sewerage, Scavenging, &c.—Two outfall works are provided—"Higher," precipitation tanks and percolating beds; "Lower," precipitation tanks and streaming filters. Scavenging is left to occupiers of houses.

Sanitary Inspection.—Bakehouses are clean and well ventilated, and slaughter-houses "satisfactory." Many of the cowsheds are very well kept, whilst the occupiers of others shut out the light and stop up means of ventilation. "Scientific theories are looked upon by some farmers with very grave doubts." Privy middens converted numbered 10. Twenty notices served for nuisance abatement received attention. Two smoke observations were taken.

Chief sanitary require- Means for refuse disposal at the
ment. lower end of the district.

The report is in manuscript.

Waterloo-with-Seaforth.—(Area in acres, 952; Estimated Population, 26,872).—Medical Officer of Health; W. S. LIMRICK, L.R.C.P.E.; *Salary*, £130.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·6	12·9	1·04	0·93	2·00	130
1907	21·9	12·7	1·24	0·82	2·63	126
Mean of 10 years						
1898-1907	25·3	11·6	1·27	0·77	2·10	124
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·7	+0·2	—0·20	+0·11	—0·63	+4
<i>Ten Years' Average.</i> —	1·7	+1·3	—0·23	+0·16	—0·10	+6

The general death-rate and the infantile mortality are almost identical with last year's averages, whilst the birth-rate increased 1·7 per 1,000. In the Waterloo Division the birth-rate was 20·98, and the death-rate 12·30, and in the Seaforth Division the rates were 25·99 and 13·45 respectively. The infant death-rate was, in Dr. Limrick's opinion, adversely affected by the want of employment of the labouring classes, especially those connected with the docks, amongst whom great poverty at times existed.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 46 (3 deaths), scarlet fever 126 (5 deaths), enteric fever 14 (3 deaths), erysipelas 16, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: measles 4, whooping cough 3, diarrhoea 10. The scarlet fever attacks were equally divided between the two divisions, 63 cases occurring in 44 houses in Waterloo; and a similar number of cases were notified from 50 houses in Seaforth. In December an unusual number of attacks took place amongst the scholars attending St. John's school. The type of the disease was

very mild, and infective children were sent to school ; three, on medical examination, were found to be in the desquamating stage. Measles was prevalent in several of the schools, the infant classes being chiefly affected, and these departments in three schools were closed.

Hospital Accommodation.—All cases of infectious disease requiring hospital isolation are removed to hospitals belonging to the Liverpool Corporation. Cases treated : diphtheria 15 (1 death), scarlet fever 54 (3 deaths), enteric fever 6 (1 death), erysipelas 1. The hospital charges for these patients amounted to £761.

Disinfection.—The Washington Lyon's steam apparatus was used 397 times, 4,712 articles of bedding, &c., being disinfected. Five schools and 212 rooms were disinfected.

Water Supply of excellent quality, obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is discharged without treatment into the estuary of the River Mersey at low-water mark. The Council has just completed a scheme of storm overflow sewers and enlargement of the outfall on the shore. Two long lengths of sewer have also been constructed. The smoke test was applied 504 times to house and school drains, and flushing of drains has been extensively carried out, over three million gallons of water being used for this purpose. House refuse is removed and scavenging performed by the Council's staff in an efficient manner.

Sanitary Inspection.—Systematic inspection of the district takes place from time to time. Special attention has been given to schools, improvements being effected in the drains and sanitary fittings. Bakehouses (35) comply fairly with the Act ; a few minor defects were remedied. There are

no common lodging-houses, but a number of houses-let-in-lodgings are kept under constant supervision. Most of the dairies, cowsheds, and milkshops are in “ a clean and sanitary condition.” At the factories and workshops 80 defects found as the result of 181 visits of inspection, were remedied. The Inspector (Mr. Cannell) reports on a vast amount of sanitary work accomplished, including the abatement of 2,099 nuisances. Notices served numbered 488, smoke observations 6.

Notable sanitary improvement.	Completion of extensive sewerage scheme and storm overflow sewer.
Chief sanitary requirement.	Reconstruction of sewers in certain parts of the district.

Westhoughton.—(Area in acres, 5,560 ; Estimated Population, 15,986).—*Medical Officer of Health*, W. H. LEIGH, M.R.C.S. ; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	30·9	16·8	1·00	0·43	4·00	155
1907	28·2	12·4	1·88	0·62	3·32	120
Mean of 10 years						
1898-1907	31·9	15·4	2·48	0·58	3·44	146
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+2·7	+4·4	—0·88	—0·19	+0·68	+35
<i>Ten Years' Average</i> .—	1·0	+1·4	—1·48	—0·15	+0·56	+9

The birth-rate shows an increase as compared with the previous year, and the same remark applies to the death-rate, which is the highest recorded for 10 years, with the exception

of the year 1900. The infantile mortality rate remains high despite the valuable services rendered by the two District Nurses and the local Sick Nursing Association, and how far this rate is affected by the employment of women in factories, Dr. Leigh says is a somewhat difficult problem to solve. The greatest mortality occurred during the first four weeks of life ; of the 77 infant deaths recorded no fewer than 33 were certified as due to premature birth, marasmus, or congenital defects, and of the remainder, almost half were due to respiratory diseases.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 12 (8 deaths), scarlet fever 15, enteric fever 18, erysipelas 5, puerperal fever 5 (2 deaths). Deaths from non-notifiable disease : diarrhoea 8. The number of cases of infectious disease notified is the lowest recorded during the past 10 years, and shows a decrease of 47 on last year, and 67 lower than the average for the previous 5 years. Although the number of diphtheria cases considerably decreased—12 as compared with 55 last year—the relative death-rate was distinctly higher, no less than 8 of the cases ending fatally. In the majority of the enteric fever cases it was impossible to trace the origin of the disease. In two instances two members of the same family were successively attacked. Three houses in which cases occurred were in the same street, and on inspection the condition of the ash-pits was found to be faulty ; these have now been put in good repair, and negotiations are proceeding with a view to the paving of the back streets. The facility for obtaining pathological examination of specimens from suspicious cases of enteric fever, diphtheria, and phthisis, has been frequently taken advantage of, and its value has been well illustrated, especially in enteric fever cases.

Hospital Accommodation is provided at Fall Birch, Horwich, jointly with the Horwich and Blackrod Councils. Cases treated : diphtheria and membranous croup 3, scarlet

fever 4, enteric fever 10. In addition to the above, a small hospital at Roger's farm is kept in readiness for small-pox, and this district is associated with neighbouring authorities, under an Order of the County Council, for the purpose of providing a small-pox hospital.

Disinfection. — No proper appliances. Houses are fumigated with sulphur and sprayed.

Water Supply obtained from the Bolton Corporation. The water was considered to be unsatisfactory in quality during the first month of the year, and on examination was found to be "unfit for drinking purposes." On representation being made to the Bolton Corporation Waterworks Committee a different supply of water was at once turned in to the mains, and this has given satisfaction.

Sewerage, Scavenging, &c.—The district is served by six sections of sewers, and the sewage is treated at three outfall works, viz., Roger's farm (60 acres) where the treatment consists of precipitation, streaming filters, and irrigation; Dog Holes farm (21 acres), and Marsh Brook farm (14 acres), where the treatment consists of land irrigation only. The Hulton Lane district is by arrangement drained into the sewers of the Bolton Corporation. The scheme for the treatment of the sewage of the Dicconson Lane district is now completed. Scavenging, carried out partly by the Authority and partly by contract, is said to be satisfactorily performed.

Sanitary Inspection.—Ten houses have been condemned and closed as unfit for human habitation, while in several cases alterations have been carried out with a view to improving the sanitary conditions. Eight back-to-back houses have been converted into "through" houses. Bakehouses, slaughter-houses, and dairies and cowsheds are on the whole in good order. Sixty-eight visits were paid to the factories

and workshops with very satisfactory results, few defects being discovered. The conversion of privy middens to water closets is proceeding slowly, 30 having been so altered during the year. The Inspector (Mr. Green) wrote 120 letters and served 8 statutory notices in regard to the abatement of nuisances. In one instance the Council executed certain work in default of the owner of the property, and legal proceedings had to be instituted to recover the expenses incurred. "Casual" smoke observations are taken.

Notable sanitary improvements.	Eight back-to-back houses converted into "through" houses; conversion of privy middens to water closets.
Chief sanitary requirements.	Paving of back streets; continued conversion of privy middens to water closets.

Whitefield.—(Area in acres, 1,406; Estimated Population, 6,877).—*Medical Officer of Health*, A. J. YOUNG, L.R.C.P.E.; *Salary*, £30.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births
1908	21·2	17·4	1·74	0·72	3·05	123
1907	23·4	13·4	1·16	0·29	2·91	111
Mean of 10 years						
1898-1907	24·3	15·7	2·09	0·75	2·92	143

Increase or Decrease on—

<i>Previous Year</i>	—2·2	+4·0	+0·58	+0·43	+0·14	+12
<i>Ten Years' Average.</i> —	3·1	+1·7	—0·35	—0·03	+0·13	—20

The statistics presented by Dr. Young do not compare

favourably with the previous year, a decline in the birth-rate being accompanied by increases in all the mortality averages.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 5 (2 deaths), scarlet fever 91 (4 deaths), enteric fever 2 (fatal), erysipelas 3. Deaths from non-notifiable diseases : measles 1, whooping cough 1, diarrhœa 2. Scarlet fever was more or less prevalent all the year, but particularly in December, and it was found necessary to adopt school closure. The Council supply diphtheritic anti-toxin free of charge.

Hospital Accommodation for small-pox and ordinary infectious diseases is provided at the Bury, &c., joint hospitals. Cases treated : diphtheria 2, scarlet fever 59 (1 death).

Disinfection.—No apparatus. Houses, clothing, &c., fumigated with sulphur.

Water Supply is obtained from the Bury and District Joint Water Board.

Sewerage, Scavenging, &c.—Precipitation and land filtration is the method of sewage treatment. Complaint has been made by the Mersey and Irwell Joint Committee of unsatisfactory samples obtained from the sewage works, and, in order to more effectually deal with the sewage, extensions are being carried out. Scavenging, described as “satisfactory” is performed by the Authority. Improvements have taken place in the emptying of ashpits and scavenging of the streets, but attention is called to the habit of householders throwing rubbish and refuse in the back streets.

Sanitary Inspection.—One house was condemned as unfit for human habitation. The sanitary condition of schools, bakehouses, and dairies and cowsheds is described as “very fair.” Forty-nine inspections of factories and workshops were made, 7 defects being discovered and remedied.

Conversions of privy middens to water closets numbered 98. The Inspector (Mr. Wright) served 64 notices and secured the abatement of 117 nuisances. Several smoke observations were taken.

Notable sanitary improvements. Conversion of privy middens to water closets ; scavenging of district greatly improved.

Whitworth.—(Area in acres, 4,485 ; Estimated Population, 10,000).—*Medical Officer of Health*, ALEXANDER WALSH, M.D. ; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births
1908	17·9	15·7	0·80	1·20	2·30	184
1907	17·8	16·9	0·90	1·20	3·50	95
Mean of 10 years						
1898-1907	21·5	16·6	0·92	1·38	3·80	128
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·1	—1·2	—0·10	...	—1·20	+89
<i>Ten Years' Average.</i> —	3·6	—0·9	—0·12	—0·18	—1·50	+56

The most noticeable feature of the mortality statistics is the great increase in the deaths of infants under the age of one year, the rate being almost double that of last year, and much in excess of the average of the preceding decade. Wasting and tubercular diseases are mainly accountable for the increase.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 9 (3 deaths), scarlet fever 27 (1 death), enteric fever 4, erysipelas 17 (1 death). Deaths from non-notifiable diseases : whooping cough 4. The latter disease was more or less prevalent throughout the district, with the exception of Healey.

Hospital Accommodation.—A cottage hospital—12 beds—is kept in readiness for small-pox cases. For other diseases no provision.

Disinfection.—No apparatus. Houses fumigated 34.

Water Supply obtained mainly from Rochdale.

Sewerage, Scavenging, &c.—Sewage is treated in precipitation tanks, streaming filters, and on land. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—At one of the schools more lavatory accommodation is necessary, and another requires a water supply. Bakehouses and slaughter-houses described as well kept, and dairies and cowsheds are clean. A few of the cowsheds which were not satisfactory have been improved as regards lighting and ventilation. Ninety-seven visits to factories and workshops revealed 6 defects, which were remedied. The “pail” system is in vogue, the number of these closets being 1,498. The Inspector (Mr. Cordingley) secured the abatement of 270 nuisances after the service of 112 notices.

Widnes (Borough).—(Area in acres, 3,110; Estimated Population, 32,111).—*Medical Officer of Health*, C. S. BREBNER, M.D.; *Salary*, £200.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	32·4	17·3	1·24	0·65	3·39	137
1907	31·8	17·5	2·05	0·90	3·70	143
Mean of 10 years						
1898-1907	32·8	17·4	2·02	0·48	3·68	172
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·6	—0·2	—0·81	—0·25	—0·31	—6
<i>Ten Years' Average.</i>	—0·4	—0·1	—0·78	+0·17	—0·29	—35

An increased birth-rate is accompanied by a slightly

decreased death-rate. With one exception the epidemic death-rate and the infantile mortality are the lowest recorded during the last ten years. The latter rate, however, Dr. Brebner reports, is "still too high and it will only be by educating the girls in the schools that any great improvement will take place. Taken as a whole, the classes among whom this mortality is so great are not willing to be advised as to feeding, &c., of infants, whereas the girls in the higher standards might readily be taught with great advantage to themselves and to future generations."

Infectious Diseases.—Cases notified: diphtheria and membranous croup 12 (2 deaths), scarlet fever 78, enteric fever 44 (5 deaths), erysipelas 16. Deaths from non-notifiable diseases: measles 12, whooping cough 1, diarrhoea 20. Nearly all the diphtheria cases were treated by means of anti-toxin which is kept in readiness at the Town Hall and Police Station. Scarlet fever, although more prevalent than last year, did not at any time assume serious proportions, prompt isolation in hospital of 87 per cent. of the cases taking place. To this action Dr. Brebner attributes the comparative immunity. Enteric fever cases, although in excess of 1907, compare favourably with the average number of cases (70) during the last ten years. The epidemic of measles, which caused the closure of schools in the latter part of 1907, rapidly abated after the Christmas holiday, and since then only small outbreaks, mild in character, have occurred. Whooping cough has not been prevalent, but diarrhoeal diseases caused a considerable number of fatalities. Referring to the latter disease and to enteric fever Dr. Brebner says such will persist until a large number of the existing insanitary privies are abolished.

Hospital Accommodation. — The Corporation hospital at Crow Wood has accommodation for 40 patients, and at Barrow's Green provision for 8 patients is made for

small-pox. At the latter hospital foundations are laid for a new ward if it should ever become necessary. Cases treated : diphtheria 3 (1 death), scarlet fever 68, enteric fever 39 (3 deaths).

Disinfection.—Manlove and Alliott's steam apparatus at the hospital was used for the disinfection of 8,775 articles.

Water Supply excellent, obtained from deep borings in the red sand-stone at Stocks Well and Netherley.

Sewerage, Scavenging, &c.—Sewage is discharged without treatment into the estuary of the River Mersey. The work of scavenging and refuse removal is carried out under the supervision of the Health Committee. Several streets are in want of paving and sewerage.

Sanitary Inspection.—A number of houses in a dangerous condition have been demolished. Bakehouses are "satisfactory," and slaughter-houses described as "good." Extra powers have been obtained regarding the latter premises, but it is not proposed to frame new bye-laws at present. Houses let-in-lodgings are frequently inspected to prevent overcrowding ; as a rule these places are found clean and free from irregularities. Dairies, cowsheds, and milkshops have received special attention, with a view to alterations being effected to make them conform to the new regulations adopted last year. Many of the owners of the cowsheds have carried out the suggestions given to them, and consequently the condition of these premises is more satisfactory. The owners of milkshops are also conforming to the new bye-laws. By the new Corporation Act (1908) the Borough has obtained powers with regard to the milk supply which are very important and far reaching. These powers, which affect all people who supply milk in Widnes, came into force on March 1st, 1909, and when fully operative will enable the Health Department to be satisfied as to the purity and cleanliness of all milk sold.

Factories and workshop inspection entailed 317 visits and the service of 35 notices. Fifty-six canal boats underwent examination. Strenuous efforts will be required before privy middens are a thing of the past, as there are no less than 3,874 "which ought to be converted." The task before the Health Officials is therefore a large one, and much more rapid progress will have to be made than in the year under report, when only 14 were converted. The Inspector (Mr. Lowe) reports on the sanitary work accomplished. Nuisances abated amounted to 844, notices served 466.

Chief sanitary require- Abolition of privy middens.
ment.

Withnell.—(Area in acres, 3,705; Estimated Population, 3,700). *Medical Officer of Health*, S. WALKER MACLEAN, M.B.; *Salary*, £25.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·6	13·7	1·08	0·54	1·35	137
1907	22·9	13·2	1·08	0·81	1·62	129
Mean of 10 years						
1898-1907	22·5	12·2	0·95	0·73	1·86	116

Increase or Decrease on—

<i>Previous Year</i>	—1·3	+0·5	...	—0·27	—0·27	+8
<i>Ten Years' Average</i>	—0·9	+1·5	+0·13	—0·19	—0·51	+21

A fall in the birth-rate, as compared with 1907, is accompanied by a slight increase in the general death-rate and in the infantile mortality. In the attempt to reduce the number of infant deaths, the District Nursing Association arranged a series of lectures during the winter months on the management and care of infants, and steps are being taken

with a view to appointing a specially qualified nurse and midwife, whose duties would be, not only to act as midwife, but to see that mothers and prospective mothers are efficiently cared for and instructed as to the management of themselves before and after child-birth, and as to the proper feeding and management of their offspring, especially during the first twelve months of life.

Infectious Diseases. — Cases notified: diphtheria 1, scarlet fever 1, enteric fever 1. Deaths from non-notifiable disease: diarrhoea 4. The number of notifications received is the lowest on record. Dr. Maclean would like to include among the notifiable diseases measles, whooping cough, chicken-pox and phthisis.

Hospital Accommodation.—The hospital is provided with 20 beds. It was not necessary to open the building during the year under report.

Disinfection.—Musgrave's steam apparatus provided at the hospital.

Water Supply, good, obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The method of sewage treatment is (a) precipitation, polarite beds, and irrigation; (b) double contact beds, and irrigation. A sewage scheme for the Brinscall portion of the district is under consideration, and a site of $3\frac{1}{2}$ acres has been obtained. "The scavenging of the roads is excellent, and more attention is paid to the ash-pits than heretofore." This work is carried out by the Authority.

Sanitary Inspection.—Housing accommodation is rather inadequate, a number of old and unsuitable houses still being occupied. The ventilation and lighting of one of the schools have recently been improved. Bakehouses and slaughter-houses are described as "satisfactory," and it is

stated that a “ good many improvements ” have been effected at the dairies and cowsheds since the last report. The closet accommodation is mainly on the pail system, but a few privy middens (39) still remain. Nuisances abated numbered 24 ; 10 notices were served, 1 being followed by legal proceedings. Smoke observations 6.

Notable sanitary improvement. Better condition of streets.

Chief sanitary requirements. New scheme for disposal of sewage ; conversion of pail closets to the water-carriage system.

Worsley.—(Area in acres, 5,342 ; Estimated Population, 13,460).—*Medical Officer of Health*, R. SAYERS, M.D. ; Salary, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·9	13·0	0·89	0·89	2·30	108
1907	21·4	13·2	1·42	0·75	2·55	118
Mean of 10 years						
1898-1907	23·4	14·3	1·72	0·93	2·39	135
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·5	—0·2	—0·53	+0·14	—0·25	—10
<i>Ten Years' Average.</i> —	1·5	—1·3	—0·83	—0·04	—0·09	—27

The mortality statistics bear favourable comparison with previous years. The general death-rate, with the exception of 1898, is the lowest recorded, and the epidemic death-rate and rate of deaths of children under one year are below any previous year. The birth-rate varied from 28·8

in North Ward to 14·7 in Central Ward, and the death-rate from 16·4 in North Ward to 8·1 in Worsley Ward. Worsley Ward had the lowest infantile mortality and Central Ward the highest.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 7 (1 death), scarlet fever 27 (1 death), enteric fever 15 (1 death), erysipelas 6. Deaths from non-notifiable diseases: measles 1, whooping cough 4, diarrhœa 4. The notifications of infectious sickness are little above one-half the average for the previous ten years. There has not been an epidemic of any kind during the year, except a little whooping cough continued from the previous year. Summer diarrhœa was almost absent.

Hospital Accommodation.—For small-pox a hospital is provided at Linnyshaw Moss jointly with Swinton and Pendlebury, and for other infectious diseases the Ladywell sanatorium, belonging to the Salford Corporation, is available. Cases treated: scarlet fever 3.

Disinfection.—No apparatus in the district. The hospital disinfector is used occasionally. Sixty-two rooms were disinfected.

Water Supply obtained from the Corporations of Manchester and Bolton.

Sewerage, Scavenging, &c.—Sewage is treated at three outfall works, viz., Barton Old Hall, Boothstown, and Wardley. At the latter works the treatment is by septic tank, streaming filters, and land, and at the other two works by precipitation tanks and land. Scavenging—undertaken by contract—gives satisfaction.

Sanitary Inspection.—“One of the worst evils in the district is overcrowding.” Two convictions in the Police Court drew some attention to the matter, but the difficulty

is the scarcity of houses. Had there been any empty property, there would have been more prosecutions. It is stated that two schemes are in hand which will largely tend to remedy this state of things. One house, unfit for human habitation, was closed. Bakehouses and slaughter-houses are said to be in good order, and dairies and cowsheds fair. Seventy-two visits were paid to factories and workshops, and 46 canal boats received attention. Two thousand five hundred privy middens still exist, only 25 conversions taking place during 1908. The Inspector (Mr. Willcock) served 141 notices, secured the abatement of 151 nuisances, took 25 smoke observations, &c.

Chief sanitary require-	Abolition of privy middens; dis-
ments.	infecting appliances.

RURAL DISTRICTS.

Barton-upon-Irwell.—(Area in acres, 6,872; Estimated Population, 9,150).—*Medical Officer of Health*, ALBERT E. BERRY, M.D. (Lond.) ; *Salary*, £60.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	20·6	13·9	1·20	0·43	1·96	100
1907	26·6	14·0	0·77	0·77	2·87	82
Mean of 10 years						
1898-1907	24·6	13·3	1·81	0·79	2·09	116
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—6·0	—0·1	+0·43	—0·34	—0·91	+18
<i>Ten Years' Average</i> ..	—4·0	+0·6	—0·61	—0·36	—0·13	—16

The death-rate is almost identical with last year's average, but a marked decrease—6 per 1,000—is recorded in the birth-rate, which is the lowest on record. Davyhulme had the highest birth-rate, viz., 25 per 1,000, followed by Flixton 20, Clifton 18, Barton Moss 17; whilst the highest death-rates were attained in Flixton and Clifton, each 14 per 1,000; in Barton Moss the rate was 12, and in Davyhulme 10.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 7 (1 death), scarlet fever 19, enteric fever 6 (2 deaths), erysipelas 10 (1 death), puerperal fever 1 (fatal). Deaths from non-notifiable diseases: measles 2, whooping

cough 6. Scarlet fever caused fewer attacks than in any year since 1898.

Hospital Accommodation.—By arrangement, the Salford Corporation hospitals are available for all diseases. Cases treated : scarlet fever 3, enteric fever 2 (1 death), erysipelas 1.

Disinfection.—Steam apparatus at the Salford hospital available.

Water Supply.—The whole district, with the exception of a few scattered dwellings, is supplied by town's water, partly by Manchester and partly by Bolton.

Sewerage, Scavenging, &c.—Treatment of sewage : Clifton (Clough works) and Davyhulme, settling tanks and streaming filters ; Clifton (Unity Brook works), septic tank. Flixton sewage is treated at the works provided jointly with the Urmston Urban District. The Mersey and Irwell Joint Committee complained of unsatisfactory effluents from the Unity Brook works. Scavenging is performed at Flixton by the Council's employees, at Clifton and Davyhulme under contract, and at Barton Moss the work devolves on occupiers, mostly farmers.

Sanitary Inspection.—One house condemned as unfit for habitation was closed. Bakehouses, slaughter-houses, and dairies and cowsheds, on the whole, are in good order. A case of an unregistered cow-keeper using an insanitary wooden shed came under notice, and the premises, which were totally unfit for the purpose, were closed. The sanitary condition of the factories and workshops "has not called for any special action." Privy middens converted numbered 28 ; 744 still remain. The Inspector served 37 notices, secured the abatement of 186 nuisances, took 6 smoke observations, &c.

The report is in manuscript.

Blackburn.—(Area in acres, 20,150 ; Census Population, excluding Public Institutions, 8,238).—*Medical Officer of Health*, W. R. POLLARD, L.R.C.P.E. ; *Salary*, £40.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·0	12·5	0·12	0·72	2·06	73
1907	19·4	13·4	0·96	1·09	3·52	125
Mean of 10 years						
1898-1907	23·8	15·0	1·15	0·77	2·69	123
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+3·6	—0·9	—0·84	—0·37	—1·46	—52
<i>Ten Years' Average</i>	—0·8	—2·5	—1·03	—0·05	—0·63	—50

All the statistics are more favourable than those of 1907. The birth-rate is higher, and very little below the average of the preceding ten years, whilst the death-rate is reduced, and the infantile mortality much lower. With the exception of 1905, the last two mentioned rates are below any previously recorded. The township birth-rates varied from 44·6 in Ramsgreave, 40·5 in Dinckley, 35·3 in Clayton-le-Dale, 27·02 in Livesey, to 18·5 in Wilpshire, 18·1 in Tockholes, 17·5 in Balderstone, 13·2 in Yate and Pickup Bank, and nil in Salesbury and Witton. The highest death-rates were attained in Eccleshill 27·2, Ramsgreave 22·3, Osbaldeston 16·4, Mellor 13·5, and the lowest in Salesbury 9·2, Wilpshire 8·4, Pleasington 6·5, Balderstone 4·3, and Dinckley and Witton nil.

Infectious Diseases.—Cases notified : diphtheria 6, scarlet fever 14, enteric fever 1, puerperal fever 1 (fatal). From non-notifiable disease : diarrhoea 1 death. Nine of the scarlet fever attacks occurred in the township of Livesey. In July an epidemic of measles occurred at Langho, necessitating

school closure, whilst in the autumn influenza and whooping cough were rife at Feniscowles.

Hospital Accommodation.—By arrangement cases can be removed to the Blackburn Corporation hospital. Cases treated : diphtheria 2, scarlet fever 3.

Disinfection.—No apparatus. “ If necessary ” infected clothing, &c., can be sent to Blackburn.

Water Supply obtained partly from Blackburn and partly from private reservoirs and wells. At Pleasington improvements made at the gathering ground have resulted in a much improved water.

Sewerage, Scavenging, &c.—Sewage is dealt with at six outfall works as follow : Langho, by open septic tanks and filtration ; Wilpshire, by settlement, filtration, and irrigation ; Mellor, by closed septic tanks and irrigation ; Mellor Brook, by closed septic tanks and single contact ; Eccleshill, by irrigation ; and Pleasington, by open septic tanks and irrigation. In addition, at Billington septic tanks have been constructed, and brickwork of filters completed. After long years of negotiations an agreement has been arrived at respecting the Feniscowles weir, and the contract for its demolition has been let. Scavenging in Livesey is now performed by contract, but in the other portions of the district this work is left to owners and occupiers.

Sanitary Inspection.—An improvement is taking place in the condition of dairies and cowsheds, and a greater regard for cleanliness is being shown. Factories and workshops received 30 visits ; no defects were noted. The Inspector served 22 notices, and a like number of nuisances were abated.

Notable sanitary improve-	Arrangements for demolition of
ment.	weir at Feniscowles.

Burnley.—(Area in acres, 42,325 ; Estimated Population, 19,800).—*Medical Officer of Health*, HENRY J. ROBINSON, M.R.C.S. ; *Salary*, £80.

Vital Statistics.

PER 1,000 OF POPULATION.							
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.	
1908	21·5	12·2	0·45	0·35	2·22	114	
1907	22·2	12·3	0·52	0·94	2·57	94	
Mean of 10 years							
1898 to 1907	22·4	13·0	1·19	0·75	2·67	120	
<i>Increase or Decrease</i>							
<i>on—</i>							
<i>Previous Year</i>	—0·7	—0·1	—0·07	—0·59	—0·35	+20	
<i>Ten Years' Average.</i>	—0·9	—0·8	—0·74	—0·40	—0·45	—6	

The birth-rate again declined, and with the exception of 1903, when the rates were identical, is the lowest recorded for the past 10 years. The infantile mortality shows a considerable increase as compared with the previous year. Fifteen of the 49 infant deaths recorded occurred during the first week of life, and 23, or nearly one half, died within a month of birth. In the opinion of Dr. Robinson, the chief causes of this high mortality were ignorance, want of cleanliness and fresh air, coupled with neglect.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 23 (1 death), scarlet fever 70 (2 deaths), enteric fever 8 (1 death), erysipelas 12, puerperal fever 1. Deaths from non-notifiable diseases : measles 2, diarrhoea 3. Cases of infectious disease notified were not so numerous as in 1907—114 as against 163. Of the scarlet fever cases one half occurred in Briercliffe in August and September, and 15 in the Cliviger district. Measles occurred at Sabden, Huncoat, and Higham during April and May, and it was found

necessary to resort to school closure, similar action also being adopted at Altham on account of the prevalence of whooping cough.

Hospital Accommodation provided at the Burnley, &c., joint sanatorium at Kibble Bank for ordinary infectious diseases, and at Crown Point for small-pox. Cases treated : diphtheria and membranous croup 4, scarlet fever 11 (2 deaths), enteric fever 1.

Disinfection.—The steam apparatus (Defries) belonging to the Burnley Corporation available. Premises disinfected with sulphur or sprayed with formalin solution. Four schools were cleansed and disinfected after outbreaks of infectious diseases.

Water Supply.—Townships of Worsthorpe and Brunshaw supplied by Burnley Corporation ; Barley, Old Laund Booth, Blacko, Reedley Hallows (part) by the Nelson Corporation ; Huncoat and Altham (part) by the Accrington Joint Water Board ; Simonstone and Altham (part) by Padiham Urban District Council ; Sabden (part), Briercliffe (part), Read, Cliviger, Foulridge, from the Council's own reservoirs ; whilst at Sabden (part), Hapton, and Dunnockshaw the waterworks are owned privately. The scheme for an increased supply to Briercliffe is practically completed, but the provision of a public supply for Higham unfortunately has made little progress, as the conditions upon which the watershed area may be secured have not yet been fully settled.

Sewerage, Scavenging, &c.—The sewers of the following townships are connected to the Burnley mains by arrangement, viz. :—Altham (part), Briercliffe, Brunshaw, Hapton, Read, Simonstone, Reedley Hallows (part). At Huncoat the sewage treatment consists of open septic tanks and double contact ; at Whinney Hill, Altham, closed septic tanks, sprinklers, and sedimentation tanks ; and at Sabden,

open septic tanks and irrigation. The sewerage scheme for the village of Foulridge is in abeyance owing to the Council being unable to agree with the landlord on several matters of detail. A Local Government Board Inquiry with respect to an application for borrowing powers to carry out a scheme of sewerage and sewage disposal for the township of Worsthorne was held in September, at which opposition was raised to the site of the disposal works. Fresh plans of the outfall works and revised estimates have been prepared, and the Local Government Board have the matter under further consideration. Extensions of the sewer at Simonstone is contemplated. The following townships are scavenged by the Council's employees :—Brunshaw, Cliviger, Hapton, Higham, Huncoat, Old Laund Booth, Read, Reedley Hallows, Sabden, Simonstone, and Worsthorne. At Altham, Barley, Briercliffe, Blacko, Foulridge, Goldshaw Booth, Habergham Eaves, and Roughlee the work, as performed by contract, is said to have been well done with two exceptions, much difficulty being experienced in these cases respecting the regular emptying of ashpits.

Sanitary Inspection.—Bakehouses and slaughter-houses on the whole give satisfaction. Dairies and cowsheds received 183 inspections, improvements as regards ventilation, lighting and drainage being effected in several instances. A satisfactory water supply has been provided to six farms in Foulridge, the result of legal proceedings taken in the previous year. Several other occupiers are under notice in respect of defective buildings or water supplies. Sixty-eight visits to factories and workshops revealed 7 defects, 6 of which have been remedied. Fourteen canal boats underwent examination, no serious defects being found. Conversion of privy middens to water closets numbered 15. The Inspectors (Messrs. Edmondson and Hewes) served 197 preliminary and 26 statutory notices, and as a result 397 nuisances were abated. In one

instance legal proceedings were instituted. Twelve smoke observations were taken.

Chief sanitary require- Water supplies to village of
ments. : Newchurch and township of
Higham; sewage schemes for
townships of Foulridge and
Worsthorne.

Bury.—(Area in acres, 12,014; Estimated Population, 8,480).—*Medical Officer of Health*, J. W. COOK, M.B.; *Salary*, £95.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	23·4	13·4	0·82	0·82	2·12	80
1907	18·5	14·9	1·53	0·71	2·60	101
Mean of 10 years						
1898-1907	20·5	13·4	1·29	0·58	2·44	127
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+4·9	—1·5	—0·71	+0·11	—0·48	—21
<i>Ten Years' Average.</i>	+2·9	...	—0·47	+0·24	—0·32	—47

The statistics presented by Dr. Cook compare favourably with those of the previous year, and also with the 10 years' average, the rate of infantile mortality being below any previously recorded, whilst the birth-rate, with the exception of the year 1898, is the highest for a number of years. The township birth-rates are as follow :—Ainsworth 21·5, Birtle-cum-Bamford 24·1, Outwood 26·4, Unsworth 21·1, Walmersley-cum-Shuttleworth 28·3, and the death-rates :—Ainsworth 15·5, Birtle-cum-Bamford 16·8, Outwood 17·4, Unsworth 9·3, Walmersley-cum-Shuttleworth 8·09.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3 (1 death), scarlet fever 12, enteric fever 4 (1 death), erysipelas 2 (1 death), puerperal fever 1. Deaths from non-notifiable diseases: whooping cough 1, diarrhoea 4. Scarlet fever, which had been prevalent in neighbouring districts, broke out in Ainsworth and Unsworth in November. Dr. Cook is of opinion that prompt removal of the cases to hospital prevented what threatened to be a somewhat serious epidemic.

Hospital Accommodation for small-pox and ordinary infectious diseases is provided at the Bury and District joint hospitals at Ainsworth and Deardens. Cases treated: scarlet fever 8.

Water Supply obtained mainly from the Bury and District Joint Water Board. Ainsworth receives a portion of its supply from Bolton, and the Heywood and Middleton Water Board supply Bamford. Most of the farms and the outlying parts of the district have private supplies. On the whole the service has been satisfactory.

Sewerage, Scavenging, &c.—The reconstruction of the Hollins outfall works, where sewage is treated by land irrigation, has now been completed. At Prestolee the treatment consists of septic tanks and streaming filters. The Mersey and Irwell Joint Committee consider that these works are too small to deal with the population of the district, and the Council have given instructions for plans and estimates to be prepared for the construction of an additional filter bed. The consent of the Local Government Board respecting scheme for construction of works at Unsworth and Bamford has been received and the contract let. The Order of Court obtained by the Mersey and Irwell Joint Committee with respect to the sewerage of Ainsworth and Brightmet has from time to time been extended, and the Authority has given a written undertaking that, immediately the sanction of the

Local Government Board for the necessary borrowing powers is obtained, steps will be taken to let the contracts. Scavenging, performed fairly satisfactorily, as in previous years, devolves on the owners of property, who make arrangements with local farmers.

Sanitary Inspection.—Ten insanitary houses have been demolished and 21 made habitable. The condition of schools is said to be satisfactory on the whole, but the Medical Officer remarks that it would conduce to the welfare of the children if the privy middens which are provided at many schools were done away with, and more sanitary arrangements provided. Bakehouses and slaughter-houses described as “good,” and dairies and cowsheds are said to be improving, alterations having been carried out at 12 farms during the year. Fifteen inspections of canal boats were made, and 80 visits paid to factories and workshops, 7 defects being discovered and remedied. The Inspector (Mr. Hurst) served 84 notices and secured the abatement of 220 nuisances. Twelve smoke observations were taken.

Chorley.—(Area in acres, 39,988; Estimated Population, 21,300).—*Medical Officer of Health*, J. A. HARRIS, M.D. (Lond.); *Salary*, £150.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	24·8	14·3	0·79	0·65	2·01	105
1907	24·7	14·7	1·14	1·09	2·42	111
Mean of 10 years						
1898-1907	27·5	14·8	1·21	0·80	2·65	126
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+0·1	—0·4	—0·35	—0·44	—0·41	—6
<i>Ten Years' Average.</i> —	2·7	—0·5	—0·42	—0·15	—1·64	—21

The vital statistics for the year under report are

somewhat more satisfactory than those of 1907, the birth-rate being fractionally increased, and the death-rate slightly decreased. “ Compared, however, with the average of the ten years preceding 1908, there has been a distinct decrease in the birth-rate, and a less-marked decrease in the death-rate.” As in several preceding years, the birth-rate was highest in the Chorley sub-district (28·2), and the lowest in Brindle (20·0) and Rivington (20·4) sub-districts ; the rate in Leyland sub-district (26·0), which was unusually low in 1907, has returned to the average of the last few years, and the rate for Croston sub-district (25·7) continues fairly steady. The sub-district death-rates were as follow : Rivington 18·7, Croston 15·9, Leyland 14·4, Brindle 12·3, and Chorley 12·2. The lowest infantile mortality—as also in 1907 and 1906—occurred in the Croston sub-district (97) ; in Brindle it was 103, in Chorley 104, in Leyland 111, and in Rivington 120.

Infectious Diseases.—Cases notified : diphtheria and membranous croup 30 (7 deaths), scarlet fever 25 (1 death), enteric fever 13 (4 deaths), erysipelas 19 (1 death), puerperal fever 1 (fatal). Deaths from non-notifiable diseases : whooping cough 2, diarrhoea 3. With the exception of 1907, there were fewer notifications than in any previous year. Anderton and Coppull produced the most diphtheria cases—9 and 6 respectively—whilst more than one-half the scarlet fever attacks occurred in Bretherton. Three of the enteric fever cases at Brindle were probably due to the consumption of contaminated shell-fish, as the persons attacked partook of a meal of mussels shortly before the commencement of the fever. Chicken-pox was very prevalent in some localities, but measles and whooping cough did not cause much trouble.

Hospital Accommodation for ordinary infectious diseases provided at the Chorley, &c., joint hospital at Heath Charnock, and for small-pox an arrangement exists whereby cases occurring in the Joint Board's districts can be removed to the

Finnington hospital belonging to the Blackburn Corporation. Cases treated: diphtheria 4 (1 death), scarlet fever 11 (1 death), enteric fever 5 (1 death).

Disinfection.—The Chorley Borough steam appliances are available.

Water Supply.—“The rural district is for the most part furnished with a plentiful supply of good water. Fourteen townships have now obtained a public supply—thirteen from the Thirlmere aqueduct and one from the Liverpool Corporation water-works.” The remaining townships vary very considerably as to the quality and quantity of the drinking water, Rivington being well supplied, whilst such townships as Mawdesley and Brindle have not as satisfactory a supply. The western water scheme for the townships of Euxton, Charnock Richard, Welch Whittle, Heskin, Eccleston, Ulnes Walton, and Bretherton is now complete, and several applications for extension of the mains have already been received from various Parish Councils.

Sewerage, Scavenging, &c.—Treatment of sewage:—Coppull Main works and Coppull Church works, precipitation and filtration; Euxton, continuous precipitation and irrigation; Eccleston, precipitation and filtration; Wheelton and Whittle, precipitation, filtration, and irrigation. For the disposal of the sewage of Anderton and Heath Charnock the Council have entered into a contract with the Adlington Urban Council. Scavenging: seven townships are now scavenged at the public expense, viz., Coppull, Euxton, Anderton, Heath Charnock, Whittle, Clayton, and Wheelton, and in addition the cesspools at Mawdesley and Bretherton are, at the expense of these townships, regularly emptied.

Sanitary Inspection.—House accommodation is generally “good,” there being only a few houses which are not in a

sufficiently good state. Bakehouses and slaughter-houses are well conducted. A thorough survey of the farms, dairies, and cowsheds is now practically completed. To remedy the most flagrant defects notices have been issued, and in some cases great improvements have been effected. New regulations came into operation at the beginning of the year. Factories and workshops were found on the whole to be well lighted, ventilated, and drained, and provided with proper sanitary conveniences. The Inspector (Mr. Froes) served 224 notices for the abatement of nuisances, and practically all were complied with.

Notable sanitary improvements.	Completion of western water scheme ; considerable improvement in cowsheds.
Chief sanitary requirements.	Extension of water supply ; continued attention to dairies and cowsheds.

Clitheroe (Lancashire Portion).—(Area in acres, 32,231 ; Census Population, 5,845).—*Medical Officer of Health*, T. THORNTON MACKLIN, M.D., D.P.H. ; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	21·2	15·3	0·68	1·53	2·39	80
1907	20·5	13·0	0·34	0·51	2·05	91
Mean of 10 years						
1898-1907	20·3	14·1	0·97	0·69	2·15	102
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+0·7	+2·3	+0·34	+1·02	+0·34	—11
<i>Ten Years' Average.</i>	+0·9	+1·2	—0·29	+0·84	+0·24	—22

A fractional rise in the birth-rate is accompanied by

increases in all the mortality averages with the exception of the infant rate. Referring to the decline in the latter rate Dr. Macklin says "were there any clear indications of increased and increasing knowledge on the part of parents as to rational and common-sense way of rearing infants, then one might expect continued progress towards the reduction of the infantile mortality figures, but as matters stand one is forced to conclude that the present improvement is accidental, and not to be relied upon in the future."

Infectious Diseases.—Cases notified: diphtheria and membranous croup 3 (1 death), scarlet fever 6, enteric fever 2 (1 death), erysipelas 6 (1 death). Deaths from non-notifiable disease: whooping cough 2. Owing to the prevalence of whooping cough during the month of August it was found necessary to close the schools at Chipping.

Hospital Accommodation.—A small hospital—joint with Clitheroe (B), &c.—is available for small-pox. No provision is made for other infectious diseases.

Disinfection.—No apparatus. Houses, clothing, &c., disinfected with sulphur.

Water Supply "good," with the exception of the villages of Chipping and Wiswell. The Medical Officer reports that "there is some prospect that the water which formerly supplied the Camp may become available for the village of Chipping, and if this should prove to be the case it will go a great way towards solving the problem which has been so long and so repeatedly under the consideration of the Council." Attention is again called to the supply for Wiswell, which is far from being satisfactory, and the Council is urged to take into consideration some method for improving the supply and preventing its contamination. Several farm houses and buildings in the villages of Downham and Worston have been provided with good water, and a new main is on the point of being laid in the latter village.

Sewerage, Scavenging, &c.—At Chatburn and Whalley, sewage is treated by irrigation, and at Barrow by continuous precipitation and irrigation. Attention is again called to the pollution of the River Calder and Barrow Brook. Scavenging is said to be satisfactorily performed on the whole ; at Chipping, Barrow, and Wiswell the Authority undertake the work, whilst at Chatburn it is performed by contract. In Whalley the responsibility for the removal of refuse is assumed by the owners in some instances, and in other cases by the occupiers, the result of this unsystematic and irregular arrangement being that the work is imperfectly performed.

Sanitary Inspection.—House accommodation is quite equal to the demand, much of it being new and good, and the general sanitation shows an improvement on the old order of things. The sanitary condition of schools is said, on the whole, to be fairly satisfactory. Slaughter-houses (9) have been kept clean and regularly limewashed, and dairies and cowsheds, generally, give satisfaction. The water supply to most of the farms is good and abundant, but in one or two instances the water is not altogether desirable. Only one defect was discovered as the result of 53 inspections of factories and workshops. Privies have been converted to the pail system, and water-carriage system introduced in several instances ; the Medical Officer of Health hopes the time is not far distant when the district will be entirely free from the privy midden abomination. The Inspector served 42 notices for nuisance abatement.

Notable sanitary improvements.	Conversion of privy middens ; systematic scavenging of Chipping.
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Chief sanitary requirements.	Disinfecting appliances ; water supply to Wiswell and Chipping.
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Fylde.—(Area in acres, 38,768; Estimated Population, 11,388).—*Medical Officer of Health*, CHARLES COURT, M.B.; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25.2	13.7	0.87	0.43	2.72	111
1907	27.0	12.5	0.44	0.97	1.95	75
Mean of 10 years						
1898-1907	26.0	13.7	1.08	0.71	1.78	109

Increase or Decrease

on—

Previous Year.....—1.8 +1.2 +0.43 —0.54 +0.77 +36

Ten Years' Average.—0.8 ... —0.21 —0.28 +0.94 +2

The increase in the birth-rate reported in 1907 has not been maintained, and the mortality statistics are not so favourable as in the previous year, increases taking place in the general death-rate, epidemic death-rate, and infantile mortality. The township death-rates varied from 23.0 in Warton, 22.3 in Elswick and Bryning-with-Kellamergh, 19.4 in Ribby-with-Wrea, 16.4 in Newton-with-Scales, to 10.3 in Westby-with-Plumpton, 8.8 in Hardhorn, Staining, and Newton, 5.0 in Little Eccleston-with-Larbreck, 4.6 in Greenhalgh-with-Thistleton, and 2.6 in Little Marton.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 18 (5 deaths), scarlet fever 39, enteric fever 14 (1 death), erysipelas 2, puerperal fever 2. Deaths from non-notifiable diseases: whooping cough 3, diarrhoea 1. Eight of the diphtheria cases occurred at Wrea Green and 2 in the contiguous township of Westby; the first case in the latter district was attributed by Dr. Court to a defective privy, and the infection was then conveyed to the Wrea Green school. Subsequently a number of children attending this

school were attacked, and many others suffered from sore throat, probably diphtheritic in character. School influence was also in evidence as regards the scarlet fever attacks, as the Sanitary Inspector found a child attending school at Hardhorn in the "peeling" stage, and later a number of cases occurred in this and adjoining townships. To stay the spread of epidemic diseases school closure took place, viz., at Singleton and Ballam, on account of scarlet fever; Wrea Green, owing to diphtheria; Singleton, Carleton, Clifton, Marton, and Wesham, because of the prevalence of measles; and at Singleton, Ballam, Wrea Green, and Westby, for whooping cough.

Hospital Accommodation for ordinary infectious cases is provided at the Fylde joint hospital at Moss Side, and for small-pox at Elswick. Cases treated: diphtheria 11 (2 deaths), scarlet fever 32, puerperal fever 2, enteric fever 14 including 1 case (fatal) removed to the Workhouse hospital.

Disinfection.—No apparatus. Fifty-three houses and 7 schools were fumigated.

Water Supply.—The Fylde Water Board supply the greater part of the district with good water. In some of the outlying parts wells more or less of a doubtful character have to be relied on.

Sewerage, Scavenging, &c.—Sewerage schemes are in operation at Wesham, Freckleton, Carleton, and Wrea Green. The remainder of the district drains into cesspools or ditches. The sewers of Clifton and Wrea Green were extended during the year, and several defective sewers at Wesham, &c., relaid. Fifty-one drains were tested with smoke. Scavenging is undertaken in Wesham by contract; elsewhere the work devolves upon householders.

Sanitary Inspection.—One insanitary house was closed. Slaughter-houses on the whole are well kept, and bakehouses said to be satisfactory. Dairies and cowsheds are "fair."

Factories and workshops received 14 visits. The Inspector (Mr. Jolly) served 65 notices and secured the abatement of 110 nuisances, 2 after legal proceedings had been instituted.

Notable sanitary improvements. Extensions of sewerage at Wrea Green, Clifton Village, and Wesham.

Chief sanitary requirement. Systematic scavenging by the Authority.

Garstang.—(Area in acres, 57,380 ; Census Population, 10,437).—*Medical Officer of Health*, THOMAS FISHER, M.R.C.S. ; *Salary*, £70.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	22·7	12·7	0·47	0·76	1·72	84
1907	21·5	12·1	0·09	0·76	2·10	71
Mean of 10 years						
1898-1907	22·6	12·8	0·50	0·66	1·95	76
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+1·2	+0·6	+0·38	...	—0·38	+13
<i>Ten Years' Average.</i>	+0·1	—0·1	—0·03	+0·10	—0·23	+8

The birth-rate increased as compared with last year, was practically identical with the average of the preceding decennial period. The mortality statistics are not quite so favourable as in 1907, the infant rate, although low, being with two exceptions the highest recorded for the past 10 years. The townships of Hambleton, Inskip, and Great Ecclestone had the highest death-rates, whilst in Cleveley and Holleth no death took place.

Infectious Diseases.—Cases notified : small-pox 1 (fatal), diphtheria and membranous croup 13, scarlet fever 9 (2

deaths), enteric fever 9 (1 death), erysipelas 1. From non-notifiable disease : whooping cough 1 death. The case of small-pox occurred in a lodging-house at Garstang, the patient—inefficiently vaccinated—being an Irish labourer of no fixed abode. Prompt removal to hospital took place, but the case became rapidly complicated, and death resulted three days after admission. Stringent measures were, as far as possible, carried out, the lodging-house was disinfected and closed, and no further case occurred. The Council supply diphtheritic anti-toxin free of charge. Owing to the prevalence of scarlet fever and influenza it was found necessary to adopt school closure. Arrangements exist for the voluntary notification of phthisis, but only two cases were notified during the year.

Hospital Accommodation for small-pox is provided at Elswick, where the fatal case above referred to was treated. By arrangement 2 cases of enteric fever were removed to the Lancaster Corporation hospital. A site has been purchased for the erection of a hospital for the treatment of cases other than small-pox, but the nature and character of the buildings have not yet been decided upon.

Disinfection.—No proper appliances. Fifteen houses and one school were fumigated.

Water Supply obtained mostly from the Fylde Water Board. Some progress is being made in Hambleton and Stalmine with the schemes for supplying these districts with Fylde water, but “owing to the cost, objections and protests are made.” The water supply at Calder Vale is one of urgent and pressing importance, and negotiations are in progress with the Manchester Corporation for a supply from the Thirlmere Main. As stated in previous reports, Pilling is much in want of good and wholesome water, but for years efforts to this end have been ineffective. The townships of

Myerscough and Bilsborrow would also benefit much by improved supplies.

Sewerage, Scavenging, &c.—The sewage works on the South side of Bowgreave “continue to give satisfaction,” but the international system on the North side has been dispensed with, and the sewage diverted by means of a new sewer, which empties into the River Wyre. A new sewer has also been laid down during the year in the township of Barnacre-with-Bonds. The Inspector reports the completion of the sewerage and construction of septic tanks and bacteria beds for the treatment of sewage from the village of Scorton, Nether Wyresdale. Plans have been prepared for dealing with the sewage of Garstang, and also the sewage from two of the three outlets in Great Ecclestone, which at present runs for a considerable distance through pasture and meadow land. A further scheme is in course of preparation for dealing with the sewage of the village of Hambleton. Scavenging is satisfactory as carried out by contract in Garstang, and also at Calder Vale, where the work is performed by the Council’s employees. The Council are again urged to consider the advisability of undertaking the scavenging of the more congested townships.

Sanitary Inspection.—One house, unfit for human habitation, was condemned, and 3 houses were put into a proper state of repair. With few exceptions the sanitary condition of schools is “generally good.” Bakehouses (10) and slaughterhouses (14) are clean and well kept, whilst the condition of cowsheds is “variable.” No cause of complaint was discovered as the result of 66 visits to factories and workshops. Forty-two inspections of 27 canal boats were made, and 2 infringements of the Acts noted. Mr. Cook, the Inspector, secured the abatement of 178 nuisances, served 64 notices, &c.

Notable sanitary improve-	Drainage of Barnacre-with-Bonds
ment.	and Scorton.

Chief sanitary require- Drainage and water supply for
ments. Pilling and Hambleton; drain-
age extension at Great Eccles-
ton; systematic scavenging by
the Authority.

Lancaster.—(Area in acres, 54,503; Estimated Population, 8,987).—*Medical Officer of Health*, G. R. PARKER, L.R.C.P.; *Salary*, £50.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·3	12·3	0·44	1·00	1·33	52
1907	20·4	13·8	1·00	0·33	2·11	103
Mean of 10 years						
1898-1907	25·3	14·4	1·17	0·80	1·80	118
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+2·9	—1·5	—0·56	+0·67	—0·78	—51
<i>Ten Years' Average</i>	—2·0	—2·1	—0·73	+0 20	—0·47	—66

The statistics are the most favourable Dr. Parker has presented. The birth-rate rose almost three per thousand of the population as compared with 1907, and the death-rate showed a considerable reduction. The epidemic death-rate was reduced more than one-half, and the infantile mortality was the lowest recorded for the district. Dr. Parker reports that “any of the eleven infantile deaths recorded this year were preventable, and easily so, with a more intelligent knowledge of the management of infants.” He again suggests that the subject of the care of young children should be taught to the older girls in schools, as this would be of far more permanent benefit than many of the subjects so carefully instilled into them at the present time, and

would naturally result in benefit to the community. The sub-districts had the following averages :—

	Birth- rate.		Death- rate.		Epidemic Death- rate.		Infantile Mortality.
Ellel	23·13	..	9·59	..	0·49	..	53
Heaton ..	22·10	..	16·19	..	nil.	..	nil.
Warton ..	23·81	..	14·38	..	0·47	..	59

Infectious Diseases.—Cases notified : scarlet fever 23, enteric fever 5 (2 deaths), erysipelas 1. Deaths from non-notifiable disease : diarrhœa 2. The increase this year in the number of cases of scarlet fever is due to infection conveyed from neighbouring districts. Ellel produced 9 cases, Warton 13, and Heaton 1 case. The prevalence of the disease in Slyne and Galgate rendered necessary the closing of the schools in these villages for a short period, and the exclusion from school of children living in Galgate but attending school at Thurnham. Dr. Parker says there is little doubt as to the value of school closure in country villages upon the outbreak of epidemic disease ; the children do not congregate together in the streets in the manner obtained in towns, and do not visit neighbours' houses to the same extent. One of the deaths classified as due to “enteric fever” is rather remarkable ; the attack of enteric fever took place twenty-two years ago, leaving the patient in a state of dementia from which she never recovered, but which only proved fatal in the year under consideration.

Hospital Accommodation.—The Lancaster Corporation sanatorium is available. Cases treated : scarlet fever 10.

Disinfection.—No apparatus.

Water Supply is obtained from several sources, viz., Lancaster Corporation, Manchester Corporation (Thirlmere pipe), wells and ditches. The attempt to obtain a public supply for Silverdale has not been brought to a successful termination. Ultimate success is hoped for, as the want of

reliable water “ has militated greatly to prevent the development of the village, which, if proper means are adopted, has every prospect of becoming a popular residential centre and health resort.” Dr. Parker suggests that this district should be united with Lindeth for sanitary purposes.

Sewerage, Scavenging, &c.—There are seven separate sewerage systems under the control of the Rural Authority, and, with the exception of Warton, these are much in the same condition as before. The Warton new sewer is gradually, but very slowly, being completed. The Bolton sewer is in good order, but the outlet is still liable to be obstructed by the action of the tides. No satisfactory conclusion has been come to with regard to the Galgate sewer, and the condition of the sewers at Glasson Dock, Priest Hutton, Overton, and Middleton is unaltered. The scavenging and removal of refuse in Bolton, Galgate, Glasson Dock, Silverdale, Thurnham, Warton, Yealand Redmayne, and Yealand Conyers is carried out by contract under the supervision of the Sanitary Inspector, and on the whole the work is efficiently performed.

Sanitary Inspection.—No serious sanitary defects were noted on the visits to bakehouses and slaughter-houses. The one common lodging-house—at Dudley, near Carnforth—is a very favourable specimen of its class. Dairies and cowsheds are slowly improving, and during 1908 four new cowsheds have been provided. Sixty-eight visits were paid to factories and workshops ; in five cases there was a want of cleanliness, and in another the closet accommodation was not satisfactory. Twenty-nine canal boats were examined. There were 127 notices served, and 186 nuisances abated.

Chief sanitary requirements.	Completion of Warton sewerage scheme ; commencement of the Galgate and Glasson Dock sewers ; public water supply for Silverdale.
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Leigh.—(Area in acres, 11,574; Estimated Population, 9,140).—*Medical Officer of Health*, C. CHALLINOR, L.R.C.P. (Lond.), D.P.H.; *Salary*, £100.

Vital Statistics.

PER 1,000 OF POPULATION.

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	32·1	16·9	2·07	0·87	3·39	136
1907	27·3	15·6	1·76	1·21	3·52	120
Mean of 10 years						
1898-1907	32·3	16·3	2·12	0·73	3·22	141

Increase or Decrease on—

<i>Previous Year</i>	+4·8	+1·3	+0·31	—0·34	—0·13	+16
<i>Ten Years' Average.</i> —	0·2	+0·6	—0·05	+0·14	+0·17	—5

A considerable increase has taken place in the birth-rate as compared with 1907, but unfortunately the general death-rate, epidemic death-rate, and infantile mortality have also risen. Diarrhœa and debility accounted for the deaths of sixteen infants under the age of one year, and “this points to the importance of the knowledge required by parents as to the feeding and other matters relating to the rearing of the young.” The various averages for the four sub-divisions are shown in the following tabular statement :—

	Birth-rate.	Death-rate.	Epidemic Death-rate.	Infantile Mortality.
Lowton	36·01	.. 17·16	.. 2·2	.. 130
Kenyon	21·21	.. 12·12	.. nil.	.. 142
Astley	36·66	.. 19·66	.. 2·66	.. 140
Culcheth ...	25·57	.. 13·68	.. 1·52	.. 129

Infectious Diseases.—Cases notified: diphtheria and membranous croup 19 (4 deaths), scarlet fever 18, enteric fever 8 (2 deaths), erysipelas 8. Deaths from non-notifiable diseases: measles 1, whooping cough 2, diarrhœa 10. Several of the diphtheria cases were attributed to defective drainage

or insanitary surroundings, and in one case the disease was contracted at school in a neighbouring district. One of the enteric fever attacks at Higher Green was probably due to the consumption of shell-fish.

Hospital Accommodation provided for all purposes at Astley by the Leigh, &c., Joint Board. Cases treated: scarlet fever 10, enteric fever 7 (2 deaths).

Disinfection. — No apparatus. Houses fumigated numbered 21.

Water Supply.—Astley is supplied by the Manchester Corporation, by arrangement with Tyldesley; Culcheth from the Warrington Water Company; Lowton and part of Kenyon by the Liverpool Corporation by arrangement with Abram; and the remaining parts of the district rely on wells.

Sewerage, Scavenging, &c.—Sewage undergoes treatment at four outfall works, viz., Glazebury, septic tanks and percolating beds; Astley, precipitation tanks and percolating beds; Lowton Common, detritus tanks, streaming filters and land; Lowton St. Mary's, settling tank and streaming filters. The Mersey and Irwell Joint Committee complained of unsatisfactory effluents from the Lowton and Astley works. A number of ditches which receive sewage have been cleaned out; the sewers have been flushed with the water van; and sewer extension took place at Astley. The removal of refuse is undertaken by farmers by arrangement with the householders. As might be expected, difficulty is often experienced in getting ashpits emptied as often as required.

Sanitary Inspection.—One house at Lowton was closed as unfit for human habitation, and efforts are being directed to make the Alms Houses at Astley more satisfactory. Slaughter-house bye-laws are now in force; these premises, together with bakehouses and lodging-houses are in a

“satisfactory” condition. As the result of the inspection of dairies and cowsheds, 33 notices to remedy certain defects were issued. Factories and workshops received 47 visits, and 163 canal boats were examined. The Inspector secured the abatement of 342 nuisances after the service of 238 notices.

Chief sanitary require- Portable disinfectors.
ment.

Limehurst.—(Area in acres, 4,772; Estimated Population, 10,800).—*Medical Officer of Health*, GEORGE F. BOWMAN, M.B.; *Salary*, £40.

Vital Statistics.

	PER 1,000 OF POPULATION,					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	26·2	16·1	1·48	0·74	3·05	133
1907	22·9	13·3	0·83	1·30	2·88	133
Mean of 10 years						
1898-1907	28·0	16·1	1·69	1·24	2·99	145
<i>Increase or Decrease on—</i>						
<i>Previous Year</i>	+3·3	+2·8	+0·65	—0·56	+0·17	...
<i>Ten Years' Average.</i> —	1·8	...	—0·21	—0·50	+0·06	—12

The birth-rate increased over three per thousand of the population, but unfortunately the death-rate increased in almost similar proportion, and assumed the highest position since 1900. The infant mortality remains the same as last year.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 6 (1 death), scarlet fever 51 (2 deaths), enteric fever 7 (2 deaths), erysipelas 3. Deaths from non-notifiable diseases: whooping cough 2, diarrhoea 9. Scarlet fever was most prevalent in the months of January and March, and Bardsley and Waterloo produced the greatest

number of attacks. In November an epidemic of measles occurred in the parish of Alt, and it was deemed advisable to close the school at Park Bridge, as 50 per cent. of the scholars were found to be suffering from the disease, or lived in houses where the disease existed.

Hospital Accommodation.—The only provision is for small-pox at Hartshead—jointly with Ashton-under-Lyne (B.) and neighbouring districts. Action is being taken by these combined districts with a view to accommodation being made for other diseases.

Disinfection.—No provision, except in case of small-pox, when the hospital apparatus is used.

Water Supply.—The larger portion of the district is supplied from the reservoirs of Ashton-under-Lyne, Stalybridge, and Dukinfield Joint Water Board, and the Parish of Cross Bank is supplied from the Oldham Corporation reservoirs. The higher or upland portion of the Parishes of Alt and Hartshead depend upon springs and wells, and the danger of pollution to these supplies is remote.

Sewerage, Scavenging, &c.—There are three sewage works, viz., Bardsley, Cross Bank, and Waterloo, the method of treatment being precipitation tanks, single or double contact beds, and land. An application has been made to the Local Government Board for sanction to borrow money to extend each of these works. “As far as practicable all properties in the three parishes are connected to the sewers.” Scavenging is performed partly by the Authority and partly by contract.

Sanitary Inspection.—House accommodation is “fairly adequate.” Three insanitary houses were closed and afterwards demolished. Slaughter-houses are clean and well drained. “Every endeavour is being made to bring the farmsteads in accordance with the regulations of the Dairies and

Cowsheds Order.” Several new shippens have been built, and the Council are pressing the owners of cowsheds to make structural alterations. The requirements of the Factory and Workshop Act have been insisted upon ; 52 inspections were made of these premises. The privy and ashpit system is being as far as possible replaced by the water-carriage system, 30 conversions taking place during 1908. The Inspector (Mr. Turner) served 362 notices, secured the abatement of 378 nuisances, took 78 smoke observations, &c.

Lunesdale.—(Area in acres, 76,267 ; Census Population, 6,948).—*Medical Officer of Health*, W. H. STOTT, L.R.C.P.E. ; *Salary*, £20.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	19·2	10·0	0·28	0·86	1·15	59
1907	21·7	13·8	0·43	0·71	1·43	105
Mean of 10 years						
1898-1907	22·3	13·3	0·71	0·71	1·42	95
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—2·5	—3·8	—0·15	+0·15	—0·28	—46
<i>Ten Years' Average</i>	—3·1	—3·3	—0·43	+0·15	—0·27	—36

The satisfactory mortality statistics are attributed chiefly to the facts that the climatic conditions during the greater part of the year were very favourable, the absence of infectious disease to any extent, and also to the improvements in the sanitary conditions which have taken place during the last few years. The general death-rate, epidemic death-rate, and infantile mortality are below any previously recorded. The birth-rates of the sub-districts were as follow : Caton 16·6, Wray 20·4, Arkholme 21·4, and Tunstall 21·6, and the death-rates were 10·6, 11·3, 8·3, and 7·2 per 1,000 respectively.

Infectious Diseases.—Cases notified : diphtheria 3, scarlet fever 4, erysipelas 1, measles and chicken-pox—both notifiable in this district—2 and 3 respectively. Deaths from non-notifiable diseases : whooping cough 1, diarrhoea 1. Although only two cases of measles were notified, in several parts of the district the disease was prevalent, and at Nether Kellett school closure had to be resorted to. The Medical Officer of Health points out the “inutility of retaining this disease amongst those which are notifiable.” The notification of phthisis is recommended.

Hospital Accommodation.—At Farleton a hospital containing 12 beds is provided. One case of scarlet fever was removed. An up-to-date ambulance has now been provided.

Disinfection.—No apparatus. Houses fumigated with formalin.

Water Supply.—“The general conditions of the water supply throughout the whole district are satisfactory.” The supply to certain portions of Leck and Cowan Bridge, however, is still inadequate, and an improvement would be effected by the enlargement or duplication of the reservoirs in connection with the Arkholme supply.

Sewerage, Scavenging, &c.—Much remains to be done before the sewerage systems of the various villages are satisfactory. A serious nuisance is caused at Caton and Wennington owing to want of proper drainage. Hornby also is not satisfactory. Scavenging is paid for by the owners of property in Halton, Nether Kellett, and Wray, and in the Parish of Caton this work is let by the District Council to a contractor.

Sanitary Inspection.—The work of improving or maintaining the sanitary condition of the villages and hamlets necessitated 949 inspections or re-inspections. Bakehouses

and slaughter-houses are "satisfactory." Regulations under the the Dairies, Cowsheds, and Milkshops Order came into operation on January 1st, 1908, and as a result of inspection a number of defects have been remedied. Several cowsheds still require alteration as regards lighting and ventilation. Factories and workshops comply fairly well with sanitary requirements, and the same remark applies to 6 canal boats examined. The Inspector (Mr. Ellis) served 169 notices, and as a result 148 nuisances were abated.

Notable sanitary improvements. Sewers relaid and tanks repaired at Halton and Brookhouse.

Chief sanitary requirements. Attention to sewerage system of Caton; water supply to Leck and Cowan Bridge and Wennington.

Preston.—(Area in acres, 52,929; Census Population, excluding Institutions, 15,997).—*Medical Officer of Health*, CHARLES J. TRIMBLE, L.R.C.P.E., D.P.H.; *Salary*, £75.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	27·8	12·8	0·43	0·68	2·37	94
1907	25·8	15·1	0·68	1·06	2·25	91
Mean of 10 years						
1898-1907	25·8	14·8	1·02	0·70	2·51	121
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	+2·0	—2·3	—0·25	—0·38	+0·12	+3
<i>Ten Years' Average</i> .	+2·0	—2·0	—0·59	—0·02	—0·14	—27

The important points embodied in Dr. Trimble's report are, an increased birth-rate—the highest since 1891; a considerable shrinkage in the general death-rate—only 0·1 per 1,000 above the lowest on record; the most favourable

epidemic death-rate reported ; infantile death roll, although slightly advanced as compared with 1907, yet well below the average of preceding years ; and a marked decline in the incidence of infectious diseases. Over one-third of the total deaths were amongst persons aged 65 years and upwards. The township birth and death rates were as follow, the birth-rates being given first :—Farington 28·92, 16·95 ; Longton 35·16, 14·65 ; Much Hoole 19·23, 19·23 ; Little Hoole 31·93, 17·96 ; Hutton 16·74, 14·35 ; Howick nil, nil ; Penwortham 40·34, 13·07 ; Samlesbury 17·44, 12·79 ; Cuerdale 19·60, 39·21 ; Ashton, Lea, Ingol, and Cottam 23·80, 14·0 ; Goosnargh 36·62, 10·17 ; Broughton 21·10, 8·11 ; Barton 16·54, 4·70 ; Haighton 32·96, 7·32 ; Woodplumpton 22·35, 9·93 ; Whittingham 27·32, 11·18 ; Ribchester 18·59, 11·31 ; Dutton 21·83, 8·73 ; Hothersall 35·21, 21·12 ; Grimsargh 15·45, 8·83 ; Elston and Ribbleton 40·0, 8·09.

Infectious Diseases. — Cases notified : diphtheria 6 (2 deaths), scarlet fever 19, enteric fever 12 (2 deaths), erysipelas 7. Deaths from non-notifiable diseases : measles 1, whooping cough 2. Scarlet fever had a greatly reduced incidence, only 19 cases occurring, against 76 last year, and 111 in 1906. Whooping cough and measles again occasioned much trouble, and, as usual, thoughtlessness and carelessness had much to answer for in spreading these diseases. In January and February the first-mentioned disease interfered with school attendance considerably at Samlesbury, about 30 cases occurring, and in December the same disease invaded 22 families, involving 30 children, at Cop Lane school, Penwortham, the infant classes bearing the brunt of the attack. By careful exclusion of certain scholars closure was avoided. Owing to the prevalence of measles at Middleforth in April the school there had to be closed, and in May similar action was adopted in the case of Howick school. An outbreak of chicken-pox occurred at Goosnargh in January,

affecting about 20 children. The “voluntary” notification of phthisis has not proved a great success.

Hospital Accommodation provided for all purposes. For small-pox the Elswick joint hospital (Fylde, Preston and Garstang) is available, and other infectious diseases may be removed to the Preston, Fulwood, and Longridge hospital at Fulwood. Cases treated : scarlet fever 5, enteric fever 2.

Disinfection.—Steam apparatus provided at the Fulwood hospital. Houses fumigated numbered 53.

Water Supply.—Of a total of 2,204 inhabited houses in the townships south of the River Ribble, 1,943 are supplied with water from the Preston Corporation, leaving 261 houses which have not had water laid on. These dwellings depend on wells and other sources of supply. The Fulwood Urban Council supply houses with water in 10 townships north of the Ribble, some 435 houses being connected. The townships of Samlesbury and Cuerdale now obtain water from the Thirlmere main (Manchester Corporation). The necessity of a proper supply to Ribchester is again pointed out, and Woodplumpton is in much need of a reliable supply.

Sewerage, Scavenging, &c.—The Farington, Grimsargh, and Ribchester sewerage schemes and sewage disposal works “appear to have given rise to no complaints.” The past year has yielded no further development as regards a scheme for Longton and Little Hoole, the retarding influence being the cost which would be entailed, and the Penwortham sewerage scheme has not yet been completed. To remove a nuisance arising from the escape of sewer gas the ventilating grids of the Farington sewer were sealed, and ventilating shafts erected. Scavenging of the populous areas is carried out under the supervision of the Parochial Committees. Attention is drawn to the wretched condition of a number of new streets in Penwortham.

Sanitary Inspection.—Bakehouses (9), slaughter-houses (9), and factories and workshops (67) have not occasioned any serious complaint. A total of 373 cowsheds have been inspected, and at 343 alterations were effected. Forty-one notices were served requiring better ventilation and lighting, or a pure water supply. Proceedings are to be taken against 8 purveyors of milk for non-compliance with notice respecting improvements in cowsheds. Thirteen canal boats were examined—all were clean and in good condition. Mr. Ashcroft (Inspector) served 61 notices for the abatement of nuisances.

Notable sanitary improve- Increased water supply.
ment.

Chief sanitary require- Sewerage and sewage disposal
ment. works for Longton and Hoole.

Sefton.—(Area in acres, 14,866 ; Census Population, 5,808).—
Medical Officer of Health, J. C. BRADSHAW, L.R.C.P.E.,
D.P.H. ; *Salary*, £90.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births
1908	18·4	13·6	0·51	0·86	2·58	65
1907	18·0	12·9	1·53	0·85	1·20	76
Mean of 10 years						
1898-1907	25·8	13·7	1·46	0·97	2·06	122
<i>Increase or Decrease</i> <i>on—</i>						
<i>Previous Year</i>	+0·4	+0·7	—1·02	+0·01	+1·38	—11
<i>Ten Years' Average.</i> —	7·4	—0·1	—0·95	—0·11	+0·52	—57

A remarkably low infant mortality, with a slightly increased birth-rate, is recorded, but the death-rate is

fractionally higher than in 1907. With the exception of the year 1900 the epidemic death-rate is the lowest recorded during the past 10 years.

Infectious Diseases.—Cases notified : diphtheria 1, scarlet fever 15, enteric fever 3 (2 deaths), erysipelas 3, puerperal fever 1 (fatal). From non-notifiable disease : diarrhoea 1 death. Knowles Cottages, Ford, where one of the fatal cases of enteric fever occurred, are still far from satisfactory, and unless the owner is willing to carry out the improvements suggested, the Medical Officer recommends that stronger measures be taken and the cottages condemned. Netherton had the greatest prevalence of infectious disease, this being ascribed to the fact that it is situate in close proximity to Liverpool, and that children from the district attend the Walton schools, which are situate in the City.

Hospital Accommodation.—A cottage hospital at Kirkby is usually reserved for small-pox, but this was not used during the year. An arrangement with Liverpool Corporation exists whereby cases of ordinary infectious disease are removed to their hospitals. Cases treated : scarlet fever 8, enteric fever 2 (fatal).

Disinfection of infected bedding, clothing, &c., is carried out by the Liverpool Corporation.

Water Supply obtained mainly from Liverpool. A few places have to rely on wells ; these are frequently inspected and the water analysed.

Sewerage, Scavenging, &c.—Sewage is generally allowed to run into cesspools, except at Kirkby where a septic tank is in operation. Scavenging is satisfactorily carried out in West Derby by contract, but in the other townships the householders are responsible.

Sanitary Inspection.—Attention is called to the dilapidated and insanitary condition of 2 cottages at Sefton, and the Council is advised to insist on the houses being made

with the previous year, and the mortality averages, excepting the epidemic and phthisis rates, have also increased. Referring to deaths of children under the age of one year, Dr. Patterson remarks that the most fruitful source of infantile disease and death is unquestionably bad feeding and improper bringing up of infants, but with the educational advantages now so easily procurable, it is hoped the rising generation will obtain the elementary knowledge which is so necessary to the well-being of the young. The divisional rates were as follow :—

	Birth- rate.		Death- rate.		Epidemic Death- rate.		Infantile Mortality.
Cartmel	17·7	..	13·0	..	0·70	..	79
Hawkshead..	19·1	..	13·7	..	1·1	..	117
High Furness	20·4	..	14·3	..	0·67	..	65
Low Furness	18·5	..	12·5	..	0·36	..	98

Infectious Diseases.—Cases notified : diphtheria and membranous croup 7 (1 death), scarlet fever 26, enteric fever 5 (1 death), erysipelas 6, puerperal fever 1. Deaths from non-notifiable diseases : measles 3, whooping cough 3, diarrhoea 4. There is a gratifying reduction in the cases of infectious disease notified, the number being the lowest recorded for the last 11 years. The outbreaks of enteric fever were sporadic in character, and it was difficult to trace the exact cause of the disease. In one instance there is little doubt that the infection was imported from an outside district, in another the diagnosis was extremely doubtful, whilst in only one of the remaining cases was there any defect in the sanitary condition of the premises likely to give rise to the disease. Measles, mild in character, was extensively prevalent throughout the district, necessitating closure of the schools at Holker, Flookburgh, Cartmel, Haverthwaite, Lowick, Newton-in-Cartmel, Kirkby Ireleth, Staveley, and Pennington. It was also found necessary to adopt school closure in 4 instances on account of chicken-pox and whooping cough.

Hospital Accommodation is provided jointly with the Urban Districts of Dalton-in-Furness and Ulverston for ordinary infectious diseases. Cases treated: diphtheria and membranous croup 2, scarlet fever 21, enteric fever 2. An arrangement exists with the Barrow Corporation for the treatment of cases of small-pox.

Disinfection.—No apparatus. Thirty-four houses and 5 schools were disinfected.

Water Supply.—Cartmel Division.—A further stage has been reached in the matter of the Cartmel water supply, the consent of the Local Government Board to the raising of a loan now being awaited; when received a wholesome water will, it is hoped, soon be within reach of the inhabitants of Cartmel Town, Broughton East, Cark, and Flookburgh. As the Grange water main passes through the village of Newton, negotiations are in progress with a view to securing therefrom a supply of water for this village. Hawkshead Division.—“It is to be regretted that the reasonable hope expressed in former reports of a satisfactory solution of the difficult question of providing Backbarrow in Colton with water has not yet been fulfilled. High Furness Division.—The scheme for a supply of water for Coniston has been satisfactorily completed, and most of the houses have taken advantage of same. A small scheme for the village of Grizebeck has also been carried out. Low Furness Division.—Application has been made to the Local Government Board for sanction to the raising of a loan for provision of a water supply for the village of Baycliffe, “and it is hoped the long-looked-for scheme will soon be an accomplished fact.”

Sewerage, Scavenging, &c.—Hawkshead Division.—During the latter part of the year a further extension of the Hawkshead sewage system was carried out. Low Furness Division.—The remaining section of the Gleaston sewerage

scheme has been held over solely on financial grounds, as a large sum of money has already been expended on prospecting for a water supply for the village of Baycliffe, situate in this division. Scavenging.—The Council have made arrangements for the removal of house refuse in many of the villages, and the Medical Officer of Health trusts that in time the whole district will be dealt with in this way, the Authority making itself responsible for the efficiency of the work.

Sanitary Inspection.—The sanitary condition of schools, bakehouses and slaughter-houses is described as “fair.” Various improvements of dairies and cowsheds have been carried out, but there is still much room for further progress. Two hundred and forty-seven visits of inspection were paid to factories and workshops, 3 defects being found and remedied. Ten privies were converted into water closets. The Inspectors (Messrs. Brocklesby, Hudson, Ellwood, and Taylor) report upon the work carried out, which included the service of 182 notices for sanitary improvements.

Warrington.—(Area in acres, 19,360 ; Estimated Population, excluding County Asylum, 12,826).—*Medical Officer of Health*, R. SEPHTON, L.R.C.P.E. ; *Salary*, £150.

Vital Statistics.

	PER 1,000 OF POPULATION.					Rate of Deaths under 1 year to 1,000 Births.
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
1908	22·0	11·4	1·55	0·54	2·18	109
1907	24·3	10·8	1·20	0·40	2·16	105
Mean of 10 years						
1898-1907	25·9	12·6	1·65	0·61	2·02	116
<i>Increase or Decrease</i>						
<i>on—</i>						
<i>Previous Year</i>	—2·3	+0·6	+0·35	+0·14	+0·02	+4
<i>Ten Years' Average.</i> —	3·9	—1·2	—0·10	—0·07	+0·16	—7

The population of the County Asylum at Winwick

(2,424) and the deaths occurring there (210) are excluded from the above statistics.

The mortality averages are slightly in excess of those of 1907, but compare favourably with the mean of the preceding decennial period. The rates for the three sub-divisions are given below :—

	Birth- rate.		Death- rate.		Epidemic Death rate.		Infantile Mortality.
Sankey	24·2	..	11·7	..	2·3	}	109
Winwick . . .	25·5	..	11·4	..	0·6		
Rixton	13·5	..	8·0	..	0·8		

Infectious Diseases.—Cases notified : diphtheria and membranous croup 34 (10 deaths), scarlet fever 37, enteric fever 4 (1 death), erysipelas 16. Deaths from non-notifiable diseases : measles 3, whooping cough 2, diarrhoea 4. Scarlet fever was prevalent during the greater part of the year, the incidence being most marked in October, and diphtheria was rife in the Sankey sub-district, 28 out of a total of 34 cases occurring here. The district was exceptionally free from measles, but the prevalence of whooping cough and influenza necessitated school closure, the former at Burtonwood in March, and the latter at Croft and Martinscroft in February and March.

Hospital Accommodation.—The Warrington infectious hospital is available. Cases treated : diphtheria 5 (2 deaths), scarlet fever 6, enteric fever 3 (1 death).

Disinfection.—Dry-heat apparatus at the Warrington hospital used.

Water Supply.—The only township not satisfactorily supplied with pure and wholesome water is Rixton-with-Glazebrook, and here the water is obtained mostly from wells. The remainder of the district is supplied by the Warrington Corporation.

Sewerage Scavenging, &c.—A small outfall works is provided at Burtonwood, but the rest of the district drains

into cesspools or ditches. Scavenging—carried out by contract—is “fairly well” performed.

Sanitary Inspection.—Two houses unfit for habitation were closed. Schools are described as in “fairly good” sanitary condition; bakehouses are “very good,” slaughter-houses “satisfactory,” and lodging-houses “good.” Dairies and cowsheds said to be fair; eight notices were served requiring structural alterations in cowsheds. Eighty-four visits paid to factories and workshops revealed only 2 defects, whilst on 27 canal boats examined 14 infringements of the Acts were noted. The nuisances which received attention included drains cleansed or re-laid 56, repairs to gullies, slop-pipes, and channels 24, houses repaired 24, &c.

Notable sanitary improve- Extension of water supply.
ment.

Chief sanitary require- More efficient drainage, especially
ment. in Fernhead and Padgate.

West Lancashire.—(Area in acres, 62,007; Estimated Population, 21,040).—*Medical Officer of Health*, G. E. SCHOLEFIELD M.D., D.P.H.; *Salary*, £450.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth- rate.	Death- rate.	Epidemic Death- rate.	Phthisis Death- rate.	Respira- tory Death- rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	23·7	13·7	0·76	0·80	1·66	98
1907	20·4	12·5	0·76	0·52	2·05	84
Mean of 10 years						
1898-1907	23·4	13·3	0·98	0·89	2·01	112

*Increase or Decrease
on—*

<i>Previous Year</i>	+3·3	+1·2	...	+0·28	—0·39	+14
<i>Ten Years' Average.</i>	+0·3	+0·4	—0·22	—0·09	—0·35	—14

The birth-rate showed a considerable increase as compared

with last year, and a fractional advance on the mean of the preceding ten years, while the mortality averages were in excess of 1907, excepting the epidemic death-rate, which continued the same, and the respiratory death-rate, which was slightly more favourable. The general death-rate was the highest for the district since 1902. The Medical Officer of Health advised the adoption of the Notification of Births Act, and the Council applied to the Local Government Board for sanction, but this was refused unless a health visitor was appointed. As the Council were not prepared to carry out the suggestion the matter was not proceeded with. The township birth and death rates were as follow :—

	Birth- rate.	Death- rate.	Epidemic Death- rate.	Infantile Mortality.
Altcar	15·32 ..	7·66 ..	nil. ..	125
Aughton	21·25 ..	13·56 ..	1·30 ..	92
Bickerstaffe	22·38 ..	17·28 ..	nil. ..	155
Bispham	22·90 ..	10·17 ..	2·54 ..	202
Downholland	34·43 ..	15·15 ..	nil. ..	80
Halsall.....	20·71 ..	15·00 ..	0·71 ..	205
Hesketh	28·43 ..	17·64 ..	0·98 ..	nil.
Lydiate	29·41 ..	13·28 ..	2·84 ..	32
Maghull	15·70 ..	8·45 ..	0·68 ..	38
Melling	29·76 ..	16·86 ..	nil. ..	33
North Meols	28·42 ..	11·57 ..	0·52 ..	92
Rufford	18·18 ..	14·28 ..	nil. ..	214
Scarisbrick	21·03 ..	12·70 ..	1·31 ..	62
Simonswood	22·47 ..	16·85 ..	nil. ..	250
Tarleton	25·75 ..	14·09 ..	0·48 ..	115

Infectious Diseases.—Cases notified : diphtheria 4 (1 death), scarlet fever 73 (3 deaths), enteric fever 22 (2 deaths), erysipelas 9, puerperal fever 3 (2 deaths). Deaths from non-notifiable diseases : whooping cough 7, diarrhœa 3. Lydiate, Aughton, and Bickerstaffe were the townships most

affected with scarlet fever, and the spread of the infection due, probably, to school influence, necessitated school closure in Lydiate. Most of the Aughton cases were attributed firstly, to infection carried from a house where a young child was suffering from the disease for three days before a medical man was called in, and at the same time other children from this house were attending school; and secondly, to a girl, who most likely received infection from this source, and returned to school in an infective condition. In Halsall four cases of scarlet fever occurred at a farm house, and as the parents objected to the sufferers being taken to hospital the Authority insisted on the removal of the cows to other premises so as to prevent the danger of the disease being spread through the medium of the milk. Measles was almost non-existent, but whooping cough prevailed more than for many years past, and schools were closed on this account in Lydiate, Melling, Tarleton, Banks, and Scarisbrick.

Hospital Accommodation.—Holly House, Aughton—formerly a country residence—has been enlarged and converted into an isolation hospital. Cases treated: diphtheria 1, scarlet fever 63 (3 deaths), enteric fever 3. An arrangement is in existence by which cases arising in the northern townships can be removed to the Southport Corporation hospital, but it was not found necessary to take advantage of this privilege during the year. For small-pox, a tent hospital—8 beds—is available.

Disinfection.—A “Thresh” steam disinfector is provided at the hospital; this was used 119 times, and 5,702 articles of bedding, clothing, &c., were disinfected. Rooms fumigated numbered 435.

Water Supply.—The district is, on the whole, satisfactorily supplied with water of excellent quality. The Southport,

Birkdale, and West Lancashire Joint Board have two wells in Aughton, another is being sunk in Bickerstaffe, and a fourth has been secured from Skelmersdale Urban District Council, and from these sources 9 townships are more or less supplied. Two townships receive their supply partially from the Ormskirk Council, two from Preston Rural Council, two from St. Helens Corporation, and one from the Lathom and Burscough Council. The scheme for supplying Holmeswood and Rufford was completed at the end of the year, and at Halsall a main has been laid to Renacre Lane and Shirdley Hill. In various parts of the district over $9\frac{3}{4}$ miles of water mains were laid during the year. Examination of the water from 16 wells situate in that part of Scarisbrick known as Narrow Moss, Moorfield Lane, and Barrison Green showed that only one could be considered a fair sample, and Dr. Scholefield therefore recommended the provision of a public supply.

Sewerage, Scavenging, &c.—The sewage from the southern portion of Aughton is carried to outfall works in the south-west of the township, whilst that from the northern area is, by agreement with the Ormskirk Urban Council, discharged into the main sewer of that district. A small area in the township of Bickerstaffe is also connected to the Ormskirk sewer, and the Council of the latter district have been approached respecting the admission into their sewers of the sewage from a portion of Scarisbrick, but without success. In the greater part of the district the cesspool system is in vogue. Scavenging is carried out in Aughton under contract, but in the remainder of the district the work is left to householders, and consequently is not satisfactorily performed. Dr. Scholefield advised the Council that, in his opinion, public scavenging of North Meols is a necessity, and tenders for the carrying out of this work have been invited.

Sanitary Inspection.—Of twelve houses condemned as unfit for human habitation, 2 were demolished, 1 closed,

and the rest made habitable. There are 23 public elementary schools in the district ; with the exception of those at Hesketh Bank and Bickerstaffe, they are all in a satisfactory condition. Bakehouses, slaughter-houses, lodging-houses, dairies and cowsheds are, on the whole, in good condition. Visits to factories and workshops numbered 192, and canal boats examined 51. The Inspector (Mr. Peach) reports on the sanitary work carried out in each township ; altogether 338 nuisances were abated after the service of 162 notices.

Notable sanitary improvement. Water supply to Holmeswood, Rufford, Renacre Lane, and Shirdley Hill, Halsall.

Chief sanitary requirements. Water supply to a portion of Scarisbrick ; system of scavenging for the more congested portion of Banks.

Whiston —(Area in acres, 31,281 ; Estimated Population, excluding Institutions, 20,730).—*Medical Officer of Health*, THOS. U. MERCER, M.B., D.P.H. ; *Salary*, £150.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	25·0	10·9	0·77	0·43	2·26	77
1907	21·8	10·5	0·58	0·82	2·24	87
Mean of 10 years						
1898-1907	25·1	11·9	1·26	0·74	2·16	106

Increase or Decrease

on—

<i>Previous Year</i>	+3·2	+0·4	+0·19	—0·39	+0·02	—10
<i>Ten Years' Average</i> .—	0·1	—1·0	—0·49	—0·31	+0·10	—29

The birth-rate shows a substantial increase on last

year's rate, and it is almost identical with the ten years' average. The general death-rate and epidemic death-rate are slightly higher than 1907, but the infantile mortality again declined. Dr. Mercer says great ignorance prevails as to the feeding of infants, and he advises the distribution of pamphlets similar to those issued by the County Authority to midwives and others. In one case an infant about three months old was found lying in a cradle with a pint cup of tea by its side, and a tube about eighteen inches long from this to its mouth.

Infectious Diseases.—Cases notified: diphtheria and membranous croup 29 (6 deaths), scarlet fever 68 (3 deaths), enteric fever 3, erysipelas 10. Deaths from non-notifiable diseases: measles 3, diarrhoea 4. The number of cases of infectious disease notified was nearly double that of last year, scarlet fever having the greatest increase. The township of Eccleston suffered most from this disease, 30 cases occurring here during the year, as compared with a total of 19 cases in the preceding five years. One of the first cases was unrecognised and the child attended school in an infectious state. During the summer there was a considerable outbreak of measles, especially at Cronton and Ditton Hall, and school closure was adopted. Whooping cough and chicken-pox at Whiston caused some trouble, but school closure was avoided.

Hospital Accommodation is provided both for small-pox and ordinary infectious diseases. Cases treated: diphtheria 9 (2 deaths), scarlet fever 53 (1 death), enteric fever 1. Dr. Mercer reports that an "isolation ward" is badly needed, also that the sanitary accommodation is very defective, and there is urgent need of a new drainage system. These matters are receiving consideration.

Disinfection.—Washington Lyon's steam apparatus at hospital available. Houses fumigated numbered 72.

Water Supply is obtained mainly from the Corporations of Liverpool, Warrington, St. Helens and Widnes. Outlying

parts rely on wells. Bold Heath is at last being supplied with water, but there are still several other smaller districts badly off in this respect.

Sewerage, Scavenging, &c.—Sewage of Hall, Ditton, and part of Halewood is discharged into the River Mersey, but for Rainhill, Eccleston and Whiston, sewage farms are provided. Other parts of the district drain into brooks and ditches. Complaints have been numerous respecting the pollution of certain streams, especially the Alder brook, and Knowsley and Ditton brook. Attention ought to be given to this matter, as a serious nuisance is caused. Scavenging in Eccleston, Rainhill, Whiston, and part of Windle is carried out by contract; in the remaining portions of the district the work devolves on occupiers and gives little satisfaction.

Sanitary Inspection.—Two insanitary houses were condemned and closed. At the public elementary schools improvements have been effected in the closet accommodation. Bakehouses and slaughter-houses are kept in better condition than formerly, but so far, not much improvement has taken place in the condition of dairies and cowsheds. In many shippens the light, ventilation, and drainage is defective, and the middens are in too close proximity. Regulations were adopted last year, and it is hoped that the Council will enforce them. Factories and workshops received 132 visits, and certain improvements were noted, but some of the premises are far from satisfactory. Eleven privy middens were abolished, but 2,047 still exist. Notices served amounted to 40, nuisances abated 99.

Notable sanitary improvements.	Sewage scheme for Eccleston and Whiston; Bold Heath water supply commenced.
Chief sanitary requirements.	Conversion of privies to water closets; better water supply to several districts.

Wigan —(Area in acres, 11,695 ; Estimated Population, 6,925).—*Medical Officer of Health*, J. H. WILSON, M.D.; *Salary*, £80.

Vital Statistics.

PER 1,000 OF POPULATION.						
	Birth-rate.	Death-rate.	Epidemic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	Rate of Deaths under 1 year to 1,000 Births.
1908	24·2	16·6	1·73	0·28	3·89	107
1907	26·1	14·2	1·17	0·44	2·64	123
Mean of 10 years						
1898-1907	29·4	15·4	1·47	0·75	3·18	133

Increase or Decrease

on—

<i>Previous Year</i>	—1·9	+2·4	+0·56	—0·16	+1·25	—16
<i>Ten Years' Average.</i> —	5·2	+1·2	+0·26	—0·47	+0·71	—26

A birth-rate below any previously recorded is accompanied by a death-rate higher than in any year since 1901. The infant rate is more favourable, being the lowest for the past 10 years with the exception of 1900. The townships of Worthington (32·4) and Dalton (29·0) had the highest birth-rates, and Haigh (15·5) the lowest, whilst the highest death-rates were attained in Worthington (25·2) and Parbold (21·9).

Infectious Diseases.—Cases notified: diphtheria and membranous croup 21, scarlet fever 10, enteric fever 8 (2 deaths), erysipelas 14, puerperal fever 1 (fatal). Deaths from non-notifiable diseases: measles 2, whooping cough 6, diarrhoea 2. Of the diphtheria cases, 17 occurred in the Crooke portion of Shevington township. The Medical Officer of Health attributes the initial outbreak to the deposit of offensive matter, brought by a canal boat from an outside township and deposited at the lower side of Crooke, with the object of levelling up a field and creating agricultural land. Steps were immediately taken to prevent any further deposit

of a similar kind. Anti-diphtheritic serum was supplied by the Council free of charge, with satisfactory results. It was found necessary to adopt school closure at Appley Bridge for a period of 3 weeks, owing to the prevalence of measles.

Hospital Accommodation of a temporary character is provided for small-pox only. This district is associated with others under an Order of the County Council for providing a small-pox hospital.

Disinfection.—No apparatus; houses, clothing, &c., are fumigated with sulphur.

Water Supply.—Appley Bridge, Shevington, Parbold, Haigh, part of Worthington, and the Hill Dale portion of Wrightington have good and constant public supplies. The Local Government Board held an inquiry respecting a loan for providing water to Mossy Lea and Wrightington Bar. Dalton and part of Worthington are dependent on well water.

Sewerage, Scavenging, &c.—Haigh is the only township where sewage receives treatment, a septic tank and triple contact bed being in operation. Elsewhere sewage discharges into cesspools or water courses. Negotiations are in progress with the Wigan Corporation for taking the sewage from a considerable portion of the Council's area. Scavenging—performed by contract—is on the whole satisfactory.

Sanitary Inspection.—The sanitary condition of schools, bakehouses, and slaughter-houses is described as “good,” and dairies and cowsheds are said to be clean and satisfactory. Inspections of factories and workshops (20) and canal boats (64) revealed no serious defects. Notices served by the Inspectors (Messrs. Bimson and Clark) numbered 56, resulting in 55 nuisances being remedied.

Chief sanitary requirement. Efficient sewerage.

*EXTRACT FROM THE METEOROLOGICAL REPORT

BY THE

REV. W. SIDGREAVES, S.J., F.R.A.S.,

*Of Stonyhurst College Observatory.*SUMMARY OF OBSERVATIONS
FOR 1908.

Results of Observations taken during the Year.						Mean for the last 61 years.
<i>Readings of Barometer in inches.</i>						
Mean of the Year...	...	...	...	29.560		29.497
Highest Monthly Mean (October)			...	29.704		29.747
Lowest „ „ (March)			...	29.374		29.230
Highest Reading (February 6th)			...	30.305		30.295
Lowest „ (December 11th)			...	28.289		28.251
Range	...	...	...	2.016		2.044
<i>Thermometer, Fahrenheit.</i>						
Highest Monthly Mean Temperature						
			(July)	...	58.0	58.6
Lowest „ „ (January)			...	36.0		35.2
Highest Reading of a Max. Therm.						
(July 2nd)	...	...	...	83.2		81.7
Lowest Reading of a Min. Therm.						
(December 30th)	...	...	...	16.1		15.7
Range of Thermometer Readings			...	67.1		66.0
Mean of Highest Daily „			...	53.1		54.7
Mean of Lowest Daily „			...	41.9		40.7
Mean Daily Range	...	...	...	11.2		14.0
Deduced Mean Temperature (from mean						
of Max. and Min.)	...	...	...	46.5		46.8
Mean Temperature from Dry Bulb			...	47.9		46.9
Adopted Mean Temperature of the Year..				47.2		46.8
Mean Temperature of Evaporation			...	45.2		44.5
Mean Temperature of Dew Point			...	43.1		42.1
Mean elastic force of Vapour ...inches				0.287		0.274
Mean weight of Vapour in a cubic foot of						
air	...	...	...	3.3		3.3
Mean additional weight required for						
saturation	...	...	...	0.6		0.7
Mean degree of Humidity (saturation 100)				86		84

* Introduced by kind permission.

Results of Observations taken during the Year.		Mean for the last 61 years.
Mean weight of a cubic foot of air...grains	540.0	539.2
Mean amount of Cloud (0—10)	6.8	7.3
Total fall of Rain ... ..inches	48.319	46.898
Greatest Monthly Rainfall (July) ..	5.624	7.494
Least (October) ..	2.339	1.208
Greatest Rainfall in one day (Nov. 21st) ..	1.580	1.621
No. of days per Month on which .005 inch or more Rain fell	18.3	17.0

SUMMARY OF WIND.

No. of days in the year on which the prevailing wind was	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
	36	49	44	3	44	52	123	15
Mean Velocity in miles per hour ...	6.9	5.6	7.3	10.1	8.2	9.4	11.1	11.8
Total No. of miles for each direction...	5981	6584	7694	730	8623	11758	32845	4248
								Mean for the last 41 years.
Total No. of miles registered	78463						87101.0	
Greatest Monthly Total (February) ...	9789						10126.4	
Least (October) ...	4569						5118.4	
Greatest hourly velocity (February 22nd)	50						52.0	
Prevailing Direction of Wind	W.						W.	

DIFFERENCES, 1908.

The signs + and — mean respectively above and below
the YEARLY average.

Mean barometric pressure ... ..	...	...	...	+	0.063 in.
Yearly range .. ..	...	...	...	—	0.028 "
Mean of highest temperatures ... ..	...	...	...	—	1.6°
Mean of lowest .. ..	...	...	...	+	1.2°
Mean daily range ... ..	...	...	...	—	2.8°
Adopted mean temperature ... ..	...	...	...	+	0.4°
Total rainfall ... ..	...	...	...	+	1.421 in.

ABSOLUTE EXTREMES FOR THE LAST 61 YEARS.

Readings of Barometer, in inches.

Highest monthly mean	...	...1891 (Feb.)	...29.997
Lowest	„	...1868 (Dec.)	...28.984
Highest yearly	„	...1896	...29.584
Lowest	„	...1872	...29.319
Greatest monthly range	...	...1884 (Jan.)	... 2.409
Least	„	...1852 (July)	... 0.505
Highest reading	...	...1896 (Jan. 9)	...30.597
Lowest	„	...1886 (Dec. 8)	...27.350
Extreme range	...	...	... 3.247

Thermometer, Fahrenheit.

Highest monthly mean temperature	...	...1901 (July)	... 63.2
Lowest	„	...1855 (Feb.)	... 28.6
Highest yearly	„	...1868	... 49.1
Lowest	„	...1879	... 44.1
Highest reading	„	...1901 (July 20)	... 89.0
Lowest	„	...1881 (Jan. 15)	... 4.6

Weight of Vapour in a cubic foot of air (grains).

Greatest monthly mean	...	...1852 (July)	... 5.1
Least	„	...1855 (Feb. and on other dates)	... 1.4

Rainfall, in inches.

Greatest Rainfall in one day	...	...1866 (Nov. 16)	... 3.700
Greatest	„	...1870 (Oct.)	...13.437
Least	„	...1859 (May)	... 0.249
Greatest	„	...1866	...62.093
Least	„	...1887	...31.250
Days on which .005 in. or more Rain fell:			
Greatest No. in one month	...	...1890 (Jan.)	... 30
Least	„	...1852 (Mar.)	... 3
Greatest	„	...1872	... 281
Least	„	...1855	... 135

Wind (Record dates from 1867 only).

Greatest hourly velocity, in miles	...	...1894 (Dec. 22)	... 72
Greatest No. of miles registered in a month	...	...1888 (Nov.)	... 12813
Least	„	...1888 (Sep.)	... 3261
Greatest Mean No.	„	...March	... 8638
Least	„	...September	... 6219
Greatest No.	„	„ year...1868	...102395
Least	„	„ „ ...1908	... 78463

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

1908.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	1.2	0.2	4.4	4.3	0	0	0	0	3.2	2.7	0	5.2	0.2	0	0	0	0.5
February	6.3	0	2.3	5.8	0	0.1	0	0	0.6	0	0.3	0	0	2.8	3.0	4.0	0
March ...	3.4	4.5	2.0	4.5	0.4	0	1.1	0	4.7	2.5	7.9	5.6	5.2	0	0	0	4.2
April ...	3.8	0.4	3.2	5.4	5.3	8.7	11.8	8.5	0	1.8	0	0.2	4.6	6.5	5.5	12.6	11.1
May ...	8.5	7.8	0	0.9	0.9	1.9	12.3	0	10.0	13.1	5.5	8.1	3.4	3.7	1.8	2.6	4.4
June ...	1.3	0.9	8.2	7.7	12.7	10.4	1.5	1.9	0.3	3.4	1.3	9.3	0	7.5	5.5	12.0	0
July ...	14.3	13.8	11.2	4.2	0.1	0	6.9	0	6.1	3.8	3.0	5.6	8.6	2.1	5.5	0	5.2
August...	10.2	8.5	10.1	1.5	0	8.5	8.7	10.3	1.3	4.2	10.2	4.9	3.6	4.4	8.3	10.5	10.6
September	5.1	5.9	0.4	1.6	0.8	0	0.2	1.9	3.9	0.8	4.5	11.0	0	0	2.4	0	5.7
October	7.7	4.9	8.3	4.0	5.8	2.1	4.7	1.0	0	4.8	1.1	8.4	5.3	2.0	2.7	0	0
November	0.4	0.2	4.1	1.9	0	0	0.1	8.0	3.6	1.6	0	5.7	2.6	1.2	0	0	1.6
December	0	1.0	0	0	0	0.5	0	0	3.1	0	5.3	3.4	0.1	0.2	0.4	0	1.2

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY
(Continued).

1908.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly Total.	Percentage each month
January ...	1.8	1.0	3.7	0	0	0	4.5	2.7	0	0	0.7	1.8	0	0.4	38.5	15.5
February ...	1.8	0.3	0	0.3	0.3	4.1	3.8	2.5	0	3.4	2.8	3.7	0	0	48.2	17.1
March ...	5.6	2.4	3.5	0	8.2	0	0	0	5.0	10.4	0	7.5	6.4	0	95.0	26.0
April ...	5.6	7.8	5.4	0.8	3.7	5.1	4.6	0.3	1.0	9.4	0	1.4	0	0	134.5	32.1
May ...	0.7	0.1	12.3	4.8	1.9	12.8	5.9	1.4	2.2	15.1	14.7	12.0	10.8	8.6	188.2	38.2
June ...	5.1	2.0	8.0	15.0	14.5	1.4	3.0	12.7	8.6	9.3	11.7	10.7	14.9	0	200.8	39.5
July ...	2.6	13.1	7.1	11.4	9.8	5.2	2.6	0.8	2.4	3.9	10.8	13.7	0	7.8	181.6	35.7
August...	0	0	0	3.5	4.8	5.2	1.7	2.7	1.6	9.7	6.4	8.8	9.2	1.2	170.6	37.3
September ...	0	6.4	0	0.1	3.9	0	0.5	0.7	2.3	7.1	0.2	9.4	8.8	0	83.6	22.1
October ...	0.5	0	0	4.9	4.4	0	5.7	8.1	0.2	0	5.2	0.8	4.7	4.7	102.0	31.3
November ...	0	4.2	0	0.9	0.9	5.8	0	0	0	0	0.1	3.0	1.2	0	47.1	18.4
December ...	0.5	0	0	0.9	0	0	0	2.4	3.8	0	0	0	0	0	22.8	9.9

VITAL STATISTICS.

TABLE I.—DEATHS registered during the year 1908 in the URBAN DISTRICTS of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-rate and Death-rates during the year.

NOTES :—(a) The Area and "Census" Population of each District are taken from the Census Return.

(b) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		Under 1 year.	1 and under 3.	3 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
ABRAM	1984	6306	7180	227	31·6	12·6	1·11	0·41	2·64	105	24	9	7	6	31	14
ACCRINGTON (Borough) ..	3427	43122	46000	1012	22·0	14·3	1·91	0·78	2·45	137	139	90	31	33	214	155
ADLINGTON	1062	4523	4899	130	26·5	11·6	0·40	0·40	2·65	76	10	6	3	3	22	13
ALLERTON	1589	1101	1221	19	15·5	6·5	1·63	0·81	1·63	105	2	..	1	..	1	4
ASHTON-IN-MAKERFIELD ..	6251	18687	21601	727	33·6	15·1	1·89	0·69	2·26	143	104	37	21	11	104	51
ASHTON-UNDER-LYNE (Borough)	1346	43890	45798	1227	26·7	19·1	1·74	1·48	3·47	183	225	81	24	38	326	182
ASPULL	1906	8388	8388	298	35·5	17·5	2·50	0·47	5·48	137	41	18	9	8	47	24
ATHERTON	2265	16211	18900	541	28·6	13·1	3·06	1·05	1·48	131	71	41	11	19	70	36
AUDENSHAW	1241	7216	7749	189	24·3	14·5	1·29	1·29	2·71	185	35	10	3	9	34	22
BACUP (Borough)	6120	22505	24600	537	21·8	15·2	0·52	0·93	2·56	104	56	30	15	19	161	95
BARROWFORD	1385	4959	5500	133	24·1	13·6	1·09	Nil.	2·18	157	21	6	3	2	28	15

TABLE 1.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respi-ratory Death-rate.		Under 1 year.	1 and 2. under 3.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
BILLINGE	4596	4232	4600	143	31.0	17.3	0.43	0.65	2.39	146	21	5	3	3	25	23
BIRKDALE	4316	15511	20000	311	15.5	11.5	0.70	0.55	1.00	112	35	16	6	12	60	102
BISPHAM-WITH-NORBRECK	1346	985	1809	20	11.0	16.0	0.55	1.65	2.21	100	2	3	3	1	17	3
BLACKROD	2392	3875	4000	116	29.0	15.0	1.00	0.50	5.00	112	13	8	9	2	16	12
BRIERFIELD	807	7288	8400	192	22.8	14.2	1.66	1.54	2.73	151	29	14	7	8	35	27
CARNFORTH	1505	3040	3200	68	21.2	13.7	Nil.	1.25	2.81	161	11	1	1	8	13	10
CHADDERTON.....	3082	24892	27400	788	28.7	17.2	1.82	1.05	2.73	147	116	56	14	18	170	100
CHILDWALL	830	219	225	3	13.3	13.3	4.44	Nil.	Nil.	333	1	..	1	..	..	1
CHORLEY (Borough)	3614	26852	30500	829	27.1	14.9	1.11	1.01	2.13	138	115	46	20	8	164	104
CHURCH	529	6463	6900	166	24.0	17.2	1.30	0.57	3.18	168	28	9	9	3	47	23
CLAYTON-LE-MOORS ...	1059	8153	9000	230	25.5	14.0	2.11	0.66	2.33	134	31	13	8	4	49	21
CLITHEROE (Borough) ..	2385	11414	13000	298	22.9	12.7	0.53	0.76	1.38	120	36	10	3	..	62	55
COLNE (Borough)	5063	23000	26190	611	23.3	14.3	1.68	1.33	2.90	145	89	45	20	13	134	75
CROMPTON	2865	13427	14200	336	23.6	15.8	1.19	0.84	3.94	151	51	16	10	10	87	51
CROSTON	2347	2102	2145	44	20.5	12.1	2.33	1.39	1.86	159	7	4	3	3	5	4
DALTON-IN-FURNESS	7990	13020	13020	334	25.6	13.8	1.15	0.84	2.45	125	42	10	9	8	54	57

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1908.		Birth rate.	Death rate.	Death rate from the seven principal Epidemic Diseases.	Phthisis Death rate.	Respiratory Death rate.		Under 1 year.	1 and 5.	5 and 15.	15 and 25.	25 and 65.	65 and upwards.
DARWEN (Borough)	5959	38212	42266	895	21·1	13·0	0·75	0·59	1·58	119	107	33	20	19	241	130
DENTON	2594	14934	15983	392	24·5	13·4	1·00	0·75	1·43	104	41	19	12	13	76	54
DROYLSDEN	1010	11087	12300	352	28·6	16·9	2·27	1·30	3·33	176	62	31	4	8	67	36
ECCLES (Borough)	2057	34369	40000	1081	27·0	13·8	1·55	0·75	2·92	119	129	67	17	21	196	128
FAILSWORTH	1072	14152	15100	388	25·6	16·0	1·39	0·79	2·98	136	53	32	11	13	81	53
FARNWORTH	1504	25925	27000	755	27·9	16·6	3·55	1·29	3·00	206	156	61	20	11	129	73
FLEETWOOD	2510	12082	15198	483	31·7	14·1	1·71	0·85	2·56	103	50	29	6	12	81	37
FORMBY	5427	5642	6342	117	18·4	8·2	0·63	0·94	1·73	68	8	2	2	2	21	17
FULWOOD	2116	2870	*4130	85	20·5	11·3	0·48	Nil.	1·21	70	6	2	1	1	14	23
GOLBORNE	1679	6789	7000	240	34·2	16·7	2·28	0·85	2·71	120	29	15	15	4	33	21
GORTON	1147	26564	40000	1301	32·5	16·4	2·55	0·95	2·95	163	213	97	21	22	192	111
GRANGE-OVER-SANDS	1540	1993	1993	24	12·0	16·5	Nil.	2·00	3·51	41	1	..	1	..	14	17
GREAT CROSBY	1907	7555	12663	244	19·2	10·7	0·39	0·31	2·13	98	24	10	6	5	50	41
GREAT HARWOOD	2868	12015	13500	300	22·2	13·1	1·11	0·44	2·37	130	39	7	10	11	57	54
HASLINGDEN (Borough) . .	8196	18543	19116	384	20·0	14·2	0·41	1·09	2·61	138	53	14	6	7	119	74

* Excluding a Population of 2,822 in Public Institutions.

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respi-ratory Death-Rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
HAYDOCK	2411	8575	9950	388	38.9	14.2	2.31	0.60	2.21	128	142	50	23	4	7	33	25
HEATON NORRIS	1619	9392	11731	153	13.0	10.6	0.42	0.59	1.44	104	125	16	8	3	5	47	46
HEYSHAM	1835	3381	3977	56	14.0	10.5	0.25	0.75	0.25	107	42	6	..	1	..	9	26
HEYWOOD (Borough)	3660	25458	27047	571	21.1	17.4	1.99	1.51	2.88	161	471	92	41	15	19	192	112
HINDLEY	2612	23504	26343	803	30.4	17.6	1.67	0.75	3.45	158	466	127	69	37	18	133	82
HORWICH	3257	15084	16214	426	26.2	12.9	1.23	0.86	2.28	145	210	62	24	11	12	65	36
HURST	638	7145	7387	208	28.1	17.4	2.30	0.81	3.38	216	129	45	20	3	2	37	22
HUYTON-WITH-ROBY	3053	4661	4661	112	24.0	12.6	1.50	0.64	1.71	62	59	7	6	3	8	18	17
INCE-IN-MAKERFIELD	2320	21262	23380	840	35.9	17.5	3.07	0.98	4.27	183	410	154	62	14	18	116	46
IRLAM	4620	4335	5500	150	27.2	12.5	1.45	Nil.	2.90	93	69	14	5	5	1	23	21
KEARSLEY	1005	9218	9750	228	23.3	16.0	3.28	1.02	2.15	192	156	44	15	3	11	52	31
KIRKHAM	857	3693	3870	92	23.7	18.3	4.13	1.55	1.29	184	71	17	8	4	4	19	19
LANCASTER (Borough) ..	3506	40329	*44131	1062	24.0	12.3	1.08	0.81	1.54	89	545	95	73	21	18	193	145
LATHOM AND BURSLOUGH	13660	7113	7724	198	25.6	13.7	0.64	0.38	2.20	111	106	22	6	6	7	39	26
LEES	203	3621	3933	122	31.0	20.8	2.03	1.01	3.30	188	82	23	14	3	4	20	18

* Excluding a Population of 2,500 in Public Institutions—persons not belonging to the Borough.

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respi-ratory Death-rate.		Under 1 year.	1 and under 3.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
LEIGH (Borough)	6358	40001	46700	1308	28·0	16·4	2·26	0·92	4·06	159	768	209	112	48	34	223	142
LEVENSULME	606	11485	18600	476	25·5	11·1	1·39	0·69	1·98	90	207	43	27	12	8	82	35
LEYLAND	3725	6865	7400	153	20·6	13·3	1·35	0·54	2·43	202	99	31	8	2	2	29	27
LITHERLAND	857	10592	16000	562	35·1	14·6	1·68	1·00	1·50	122	234	69	31	14	11	80	29
LITTLEBOROUGH	7853	11166	11578	239	20·6	12·6	0·86	0·77	2·15	83	147	20	9	8	7	66	37
LITTLE CROSBY	1903	563	630	11	17·4	4·7	Nil.	1·58	Nil.	Nil.	3	..	..	1	..	2	..
LITTLE HULTON	1699	7294	7294	193	26·4	15·0	2·60	0·68	2·87	139	110	27	14	6	5	41	17
LITTLE LEVER.....	808	5119	5500	156	28·3	12·7	1·45	1·45	3·09	96	70	15	10	4	6	21	14
LITTLE WOOLTON	1389	1091	1091	24	21·9	6·4	Nil.	Nil.	1·83	41	7	1	..	..	1	1	4
LONGRIDGE	3285	4304	4304	112	26·0	16·2	1·16	2·55	1·16	160	70	18	2	2	2	29	17
LYTHAM	2464	7185	10094	136	13·4	13·5	0·39	0·49	1·68	73	137	10	8	9	1	57	52
MIDDLETON (Borough) ..	4775	25178	27500	627	22·8	16·1	1·54	1·52	3·09	153	444	96	38	15	16	157	122
MILNROW	5198	8241	8735	187	21·4	16·0	1·37	0·57	2·63	144	140	27	12	1	8	55	37
MORECAMBE (Borough) ..	1801	11798	14640	229	15·6	13·1	0·40	0·54	1·77	91	193	21	11	7	4	74	76
MOSSLEY (Borough)	3622	13452	13838	323	23·3	17·5	1·08	1·29	3·83	114	243	37	23	6	5	100	72
MUCH WOOLTON	792	4731	4731	95	20·0	13·3	0·63	1·26	1·90	94	63	9	2	9	1	20	22

TABLE I.---Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
NELSON (Borough).....	3466	32816	39500	820	20·7	11·0	0·58	0·81	2·45	117	436	96	41	20	27	165	87
NEWTON-IN-MAKERFIELD.	3105	16699	20180	548	27·1	11·3	1·78	0·79	1·53	102	229	56	37	8	10	79	39
NORDEN.....	5358	3907	4000	82	20·5	13·7	0·75	0·50	2·00	73	55	6	5	2	2	20	20
ORMSKIRK	574	6857	6857	190	27·7	17·0	0·58	1·16	2·91	94	117	18	7	3	9	48	32
ORRELL	1617	5436	6015	176	29·2	17·4	3·65	1·49	2·99	221	105	39	12	2	3	25	24
OSWALDTWISTLE	4885	14192	15000	379	25·2	14·6	1·26	0·60	2·33	134	220	51	17	7	10	86	49
PADIHAM.....	970	12205	13930	363	26·0	16·3	1·43	0·64	3·58	165	228	60	34	5	9	78	42
POULTON-LE-FYLDE	915	2223	2550	50	19·6	14·5	0·78	0·39	1·17	200	37	10	3	3	4	10	7
PRESALL-WITH-HACKINSALL	3232	1423	1960	41	20·9	12·2	0·51	0·51	1·53	170	24	7	..	1	1	3	12
PRESCOT	297	7855	8000	215	26·8	18·7	3·12	1·24	5·00	167	150	36	22	7	8	46	31
PRESTWICH	2494	9779	*11500	248	21·5	13·3	1·13	0·78	2·78	72	154	18	16	12	7	53	48
RADCLIFFE	3098	25368	27000	616	22·8	13·0	0·77	0·40	2·70	142	351	88	27	6	13	135	82
RAINFORD	5877	3359	3278	102	31·1	13·4	0·91	Nil.	2·13	88	44	9	3	1	..	14	17
RAMSBOTTOM.....	6424	15920	16200	322	19·8	12·7	0·92	1·29	1·97	121	206	39	15	8	10	82	52

* Excluding Population in County Asylum.

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		Under 1 year.	1 and under 2.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
RAWTENSTALL (Borough).	9535	31053	32700	733	22.4	13.9	1.10	0.97	2.59	113	83	32	11	28	177	126
RISHTON.....	2985	7031	7500	153	20.4	13.2	2.40	0.66	2.00	150	23	12	4	4	32	24
ROYTON	2145	14881	15850	438	27.6	18.1	1.45	0.88	3.84	139	61	37	17	6	116	51
ST. ANNES-ON-THE-SEA...	3342	6838	10564	153	14.4	10.6	0.47	0.66	1.32	111	17	4	4	6	51	30
SKELMERSDALE	1942	5699	6500	215	33.0	20.7	2.00	0.61	4.00	204	44	22	2	1	47	19
STANDISH-WITH-LANGTREE	3266	6303	6956	249	35.7	15.3	1.29	0.57	2.73	140	35	11	6	1	34	20
STRET福德	3240	30436	43000	891	20.7	11.3	1.00	0.72	1.79	103	92	45	15	24	196	118
SWINTON AND PENDLEBURY.....	2282	27005	29885	803	26.8	14.7	2.17	1.13	3.11	154	124	59	18	18	133	90
THORNTON	2996	3108	4408	113	25.6	13.6	1.58	0.22	1.58	88	10	10	..	..	22	18
TOTTINGTON	2543	6118	6925	113	16.3	12.9	0.14	1.15	2.16	97	11	2	5	5	34	33
TRAWDEN	6815	2641	2910	87	29.8	17.1	0.34	1.03	4.81	91	8	6	2	3	12	19
TURTON	17335	12355	12710	225	17.7	13.2	0.39	0.70	2.59	124	28	8	8	7	61	56
TYLDESLEY-WITH-SHAKERLEY	2490	14843	17000	497	29.2	15.7	2.00	0.64	2.64	144	72	31	13	15	90	47
ULVERSTON	3172	10064	10064	219	21.7	15.6	1.39	0.99	2.88	105	23	11	4	1	69	50

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respi-ratory Death-rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
UPHOLLAND	4686	4773	5005	165	32·9	16·3	1·79	0·39	2·59	139	82	23	8	5	..	28	18
URMSTON	992	6594	8000	162	20·2	12·3	1·37	0·87	2·12	92	99	15	5	3	5	36	35
WALTON-LE-DALE	4658	11271	11271	312	27·6	15·0	1·33	0·62	2·48	163	170	51	20	1	5	60	33
WARDLE.....	3192	4427	*4200	61	14·5	11·9	1·19	1·19	1·19	81	50	5	3	5	1	20	16
WATERLOO-WITH-SEAFORTH	952	23102	26872	635	23·6	12·9	1·04	0·93	2·00	130	347	83	29	13	12	122	88
WESTHOUGHTON	5560	14377	15986	495	30·9	16·8	1·00	0·43	4·00	155	269	77	42	5	13	92	40
WHITEFIELD	1406	6588	6877	146	21·2	17·4	1·74	0·72	3·05	123	120	18	12	7	3	45	35
WHITWORTH	4485	9578	10000	179	17·9	15·7	0·80	1·20	2·30	184	157	33	12	5	5	62	40
WIDNES (Borough).....	3110	28580	32111	1042	32·4	17·3	1·24	0·65	3·39	137	556	143	73	19	23	202	96
WITHNELL	3705	3349	3700	80	21·6	13·7	1·08	0·54	1·35	137	51	11	2	1	3	25	9
WORSLEY	5342	12462	13460	296	21·9	13·0	0·89	0·89	2·30	108	176	32	19	5	9	61	50

* Excluding Population of Public Institutions.

TABLE II.—DEATHS registered during the year 1908 in the **URBAN DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																									
URBAN DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis)	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.
								Typhus	Enteric	Other continued															
ABRAM	Under 5... 5 upwards	..	1	..	..	..	..	..	4	..	..	..	3	1	..	..	3	2	3	11	2	11	9	..	16
ACCINGTON (Borough) ..	Under 5... 5 upwards	..	29	..	18	4	..	..	4	..	1	..	24	14	..	1	36	15	38	46	8	37	12	3	77
ADLINGTON	Under 5... 5 upwards	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	2	3	1	6	..	10	1	..	4
ALLERTON	Under 5... 5 upwards	..	..	..	1	..	..	..	..	..	..	..	1	1	..	..	1	..	..	2	..	..	..	..	1
ASHTON-IN-MAKERFIELD ..	Under 5... 5 upwards	..	2	1	1	6	2	..	4	..	1	..	19	20	..	1	13	8	11	23	2	10	1	1	54
ASHTON-UNDER-LYNE (Borough)	Under 5... 5 upwards	..	3	1	19	3	..	..	4	..	6	..	44	8	1	..	9	..	33	43	5	2	9	3	165
ASPULL	Under 5... 5 upwards	..	..	..	13	1	..	..	2	..	3	..	5	4	..	1	4	..	5	17	..	2	7	..	18
ATHERTON	Under 5... 5 upwards	..	2	2	23	3	..	..	7	..	..	..	19	6	..	..	20	6	7	7	1	1	4	..	43
AUDENSHAW	Under 5... 5 upwards	..	..	1	1	1	..	..	2	..	..	..	2	1	..	..	10	3	2	13	..	9	4	3	24
		..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	26

TABLE II.—continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtisis (Pul. Tuberculosis).	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.
		Under 5 upwards	..	4	4	1	1	2	..	..	..	10	..	2	2	1	..	23	2	16	18	..	31	9	1	50
BACUP (Borough)	.....	Under 5 upwards	..	..	..	..	..	..	..	..	..	2	..	1	2	..	..	..	7	6	45	..	5	1	1	144
BARROWFORD	.....	Under 5 upwards	..	..	..	4	..	..	..	..	..	2	..	1	..	..	1	..	..	..	8	..	5	1	1	16
BILLINGE	.....	Under 5 upwards	..	..	1	..	..	..	..	..	..	1	..	1	4	..	..	1	3	6	3	..	10	2	..	15
BIRKDALE	.....	Under 5 upwards	..	..	2	3	1	..	..	..	..	..	..	6	4	1	..	2	5	20	2	..	34	4	5	26
BISPHAM-WITH-NORBRECK	.....	Under 5 upwards	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3	2	2	2	..	3	1	1	9
BLACKROD	.....	Under 5 upwards	..	3	..	..	1	..	..	..	..	..	..	..	..	..	..	2	1	..	7	..	4	..	..	9
BRIERFIELD	.....	Under 5 upwards	..	2	..	..	1	1	..	1	..	1	..	8	5	1	..	3	2	5	9	..	12	2	..	10
BRIERFIELD	.....	Under 5 upwards	..	..	..	..	..	..	..	..	..	1	..	2	1	..	..	10	3	5	14	..	2	..	..	25
CARNFORTH	.....	Under 5 upwards	..	..	..	..	..	..	..	..	..	2	..	..	2	..	..	4	..	1	2	1	2	2	..	7
CHADDERTON	.....	Under 5 upwards	..	23	1	3	3	2	..	..	..	8	..	14	12	..	..	2	5	26	28	..	45	1	2	78
CHILDWALL	.....	Under 5 upwards	..	..	1	..	..	..	..	..	..	..	..	1	2	..	..	27	3	..	47	..	..	15	..	117
		Under 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
		Under 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1

TABLE II.—Continued.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
URBAN DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Group.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases	
								Typhus	Enteric	Other continued																
CHORLEY (Borough)	Under 5 . . 5 upwards	..	1	1	15	..	..	..	4	..	..	..	9	13	..	..	1	8	..	18	27	..	1	5	..	80
CHURCH	Under 5 . . 5 upwards	..	..	..	1	1	..	..	1	..	..	..	4	4	1	..	..	..	6	9	13	1	20	6	1	16
CLAYTON-LE-MOORS	Under 5 . . 5 upwards	..	2	..	4	..	..	..	1	..	..	..	10	2	2	..	..	1	2	9	12	2	9	6	..	13
CLITHEROE (Borough) . . .	Under 5 . . 5 upwards	..	..	2	..	..	..	..	1	..	6	..	4	10	..	..	1	4	17	6	12	1	14	1	..	17
COLNE (Borough)	Under 5 . . 5 upwards	..	12	..	3	1	..	..	2	..	3	..	16	3	1	..	1	6	14	25	51	6	27	6	..	63
CROMPTON	Under 5 . . 5 upwards	..	..	2	4	..	..	..	4	..	1	..	2	10	1	1	11	3	10	11	45	1	11	6	1	32
CROSTON	Under 5 . . 5 upwards	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1	..	4	..	1	1	..	2	
DALTON-IN-FURNESS	Under 5 . . 5 upwards	..	..	..	..	..	..	..	2	..	5	..	9	3	..	1	11	7	11	14	18	1	17	6	1	21
DARWEN (Borough)	Under 5 . . 5 upwards	..	..	1	4	2	..	..	8	..	10	..	15	14	1	..	25	8	35	23	44	3	52	7	5	73
DENTON	Under 5 . . 5 upwards	..	..	3	3	1	..	..	5	..	2	..	1	3	..	..	12	4	12	8	15	1	25	1	3	32

TABLE II.—Continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																			Suicides.	Accidents.	All other Diseases.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtisis (Pul. Tuberculosis).	Other Tuberculous Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.				Alcoholism, Cirrhosis of Liver.	Heart Diseases																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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TABLE II.—Continued.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
URBAN DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtthisis (Pul. Tuberculosis).	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.	
								Typhus	Enteric	Other continued																
GREAT CROSBY	Under 5... 5 upwards	..	2	1	..	..	..	..	1	..	..	..	1	3	..	..	..	4	3	..	9	7	..	1	1	16
GREAT HARWOOD	Under 5... 5 upwards	..	..	1	..	1	..	..	2	..	..	..	5	4	..	..	..	6	12	10	2	10	..	4	1	42
HASLINGDEN (Borough) ..	Under 5... 5 upwards	..	..	..	3	1	..	..	1	..	..	..	1	3	..	..	21	3	..	15	18	..	47	4	4	34
HAYDOCK	Under 5... 5 upwards	..	3	1	..	..	..	..	2	..	3	..	..	2	..	..	6	2	3	5	11	1	8	..	..	35
HEATON NORRIS	Under 5... 5 upwards	..	..	..	2	3	..	..	..	..	3	..	..	4	..	..	7	2	2	9	4	15	4	..	..	9
HEYSHAM	Under 5... 5 upwards	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	3	..	..	4	1	4	..	..	..	42
HEYWOOD (Borough)	Under 5... 5 upwards	..	5	..	1	3	..	..	3	..	2	..	1	8	..	..	40	6	8	25	21	1	34	1	5	49
HINDLEY	Under 5... 5 upwards	..	..	6	..	7	1	..	5	..	3	..	..	6	2	..	18	37	24	40	..	33	5	..	79	
HORWICH	Under 5... 5 upwards	..	1	4	8	1	..	..	1	..	..	..	1	11	..	1	14	2	19	..	1	10	2	..	..	35
HURST	Under 5... 5 upwards	..	6	3	2	..	..	..	1	..	..	..	4	3	..	..	6	5	2	..	13	8	..	1	..	29
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	..	1	..	..	31

TABLE II.—Continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																Suicides.	Accidents.	Heart Diseases	Liver.	Alcoholism, Cirrhosis of	Pneumonia, and Pleurisy.	Bronchitis, Cancer, malignant disease.	Other Tuberculous Diseases	Phthisis (Pul. Tuberculosis).	Erysipelas.	Puerperal Fever.	Enteritis.	Diarrhoea.	Cholera.	Epidemic Influenza.	Fever.			Group.	Diphtheria & Mem. Group.	Whooping Cough.	Scarlet Fever.	Measles.	Small-pox.	All other Diseases.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			Typhus	Enteric	Other continued	Diarrhoea.	Cholera.	Enteritis.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of	Liver.	Heart Diseases	Accidents.																Suicides.	All other Diseases.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
HUYTON-WITH-ROBY	Under 5..	5 upwards	1	3	1	1

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respi-ratory Death-rate.		At all Ages.	Under 1 year.	1 and 5 under 5.	5 and 15 under 15.	15 and 25 under 25.	25 and 65 under 65.	65 and upwards.
LEIGH (Borough)	6358	40001	46700	1308	28·0	16·4	2·26	0·92	4·06	159	768	209	112	48	34	223	142
LEVENSHULME	606	11485	18600	476	25·5	11·1	1·39	0·69	1·98	90	207	43	27	12	8	82	35
LEYLAND	3725	6865	7400	153	20·6	13·3	1·35	0·54	2·43	202	99	31	8	2	2	29	27
LITHERLAND	857	10592	16000	562	35·1	14·6	1·68	1·00	1·50	122	234	69	31	14	11	80	29
LITTLEBOROUGH	7853	11166	11578	239	20·6	12·6	0·86	0·77	2·15	83	147	20	9	8	7	66	37
LITTLE CROSBY	1903	563	630	11	17·4	4·7	Nil.	1·58	Nil.	Nil.	3	..	..	1	..	2	..
LITTLE HULTON	1699	7294	7294	193	26·4	15·0	2·60	0·68	2·87	139	110	27	14	6	5	41	17
LITTLE LEVER.....	808	5119	5500	156	28·3	12·7	1·45	1·45	3·09	96	70	15	10	4	6	21	14
LITTLE WOOLTON	1389	1091	1091	24	21·9	6·4	Nil.	Nil.	1·83	41	7	1	..	..	1	1	4
LONGRIDGE	3285	4304	4304	112	26·0	16·2	1·16	2·55	1·16	160	70	18	2	2	2	29	17
LYTHAM	2464	7185	10094	136	13·4	13·5	0·39	0·49	1·68	73	137	10	8	9	1	57	52
MIDDLETON (Borough) ..	4775	25178	27500	627	22·8	16·1	1·54	1·52	3·09	153	444	96	38	15	16	157	122
MILNROW	5198	8241	8735	187	21·4	16·0	1·37	0·57	2·63	144	140	27	12	1	8	55	37
MORECAMBE (Borough) ..	1801	11798	14640	229	15·6	13·1	0·40	0·54	1·77	91	193	21	11	7	4	74	76
MossLEY (Borough)	3622	13452	13838	323	23·3	17·5	1·08	1·29	3·83	114	243	37	23	6	5	100	72
MUCH WOOLTON	792	4731	4731	95	20·0	13·3	0·63	1·26	1·90	94	63	9	2	9	1	20	22

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
NELSON (Borough).....	3466	32816	39500	820	20·7	11·0	0·58	0·81	2·45	117	436	96	41	20	27	165	87
NEWTON-IN-MAKERFIELD.	3105	16699	20180	548	27·1	11·3	1·78	0·79	1·53	102	229	56	37	8	10	79	39
NORDEN	5358	3907	4000	82	20·5	13·7	0·75	0·50	2·00	73	55	6	5	2	2	20	20
ORMSKIRK	574	6857	6857	190	27·7	17·0	0·58	1·16	2·91	94	117	18	7	3	9	48	32
ORRELL	1617	5436	6015	176	29·2	17·4	3·65	1·49	2·99	221	105	39	12	2	3	25	24
OSWALDTWISTLE	4885	14192	15000	379	25·2	14·6	1·26	0·60	2·33	134	220	51	17	7	10	86	49
PADIHAM.....	970	12205	13930	363	26·0	16·3	1·43	0·64	3·58	165	228	60	34	5	9	78	42
POULTON-LE-FYLDE	915	2223	2550	50	19·6	14·5	0·78	0·39	1·17	200	37	10	3	3	4	10	7
PREESALL-WITH-HACKINSALL	3232	1423	1960	41	20·9	12·2	0·51	0·51	1·53	170	24	7	..	1	1	3	12
PRESCOT	297	7855	8000	215	26·8	18·7	3·12	1·24	5·00	167	150	36	22	7	8	46	31
PRESTWICH	2494	9779	*11500	248	21·5	13·3	1·13	0·78	2·78	72	154	18	16	12	7	53	48
RADCLIFFE	3098	25368	27000	616	22·8	13·0	0·77	0·40	2·70	142	351	88	27	6	13	135	82
RAINFORD	5877	3359	3278	102	31·1	13·4	0·91	Nil.	2·13	88	44	9	3	1	..	14	17
RAMSBOTTOM.....	6424	15920	16200	322	19·8	12·7	0·92	1·29	1·97	121	206	39	15	8	10	82	52

* Excluding Population in County Asylum.

TABLE II.—Continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtisis (Pul. Tuberculosis).	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.	
PADIHAM	Under 5... 5 upwards	10	1	..	2	2	1	6	..	1	6	..	1	2	1	3	..	9	22	..	21	3	..	37
		1	1	8	3	..	28	..	21	3	..	56
		1	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	1	1	1	..	..	6
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	14
		..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	1	..	..	2
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	9
		1	..	2	2	13	10	5	..	20	..	6	2	..	11
		2	1	..	3	1	1	3	9	2	..	7	..	12	..	3	15
		2	..	2	1	2	2	6	15	11	4	20	31	..	26	..	2	52
		5	..	42	113
RADCLIFFE	Under 5... 5 upwards	2	..	2	2	2	..	..	..	1	6	..	..	2	..	..	..	..	2	..	..	7	..	3	..	8
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11
RAINFORD	Under 5... 5 upwards	..	..	..	..	..	..	..	..	2	..	..	..	2	..	..	..	..	2	..	..	7	..	3	..	2
		
RAMSBOTTOM.....	Under 5... 5 upwards	2	3	4	2	4	1	..	..	2	..	1	2	1	..	..	..	21	3	12	15	15	18	2	..	24
		..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	36	17	23	53	5	3	62
RAWTENSTALL (Borough)	Under 5... 5 upwards	9	1	10	4	4	..	..	..	6	3	..	6	2	..	3	1	2	6	..	..	23	53	6	..	52
		..	..	..	2	2	..	..	..	..	2	..	..	2	..	..	..	..	4	..	..	62	..	..	4	131
RISHTON.....	Under 5... 5 upwards	8	2	..	..	..	..	..	..	5	2	..	5	5	..	..	..	..	1	5	6	6	2	..	..	9
		..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	11	3	1	23	

TABLE II.—Continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtthisis (Pul. Tuberculosis).	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.
ROYTON	Under 5 upwards	6	9	3	2	1	..	..	..	..	5	..	5	2	3	..	..	1	10	1	25	..	23	1	..	40
		1	2	1	..	..	..	..	..	..	..	..	..	2	..	3	..	13	7	20	36	2	3	3	71	
ST. ANNES-ON-THE-SEA ..	Under 5 upwards	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..	..	7	2	11	3	16	2	4	..	10
		..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	11	11	1	4	..	34	
SKELMERSDALE	Under 5 upwards	..	..	..	9	1	..	..	..	..	..	..	..	2	18	..	..	4	2	..	15	12	..	..	19	
		..	..	..	..	..	..	..	..	..	3	..	..	..	2	6	..	4	..	1	11	2	..	..	31	
STANDISH-WITH-LANGTREE	Under 5 upwards	..	..	..	3	1	..	..	..	..	..	..	..	3	1	..	..	4	3	..	9	7	3	9	..	18
		..	..	..	..	1	..	..	..	..	1	..	..	..	..	1	..	4	..	1	10	..	9	2	24	
STRETFORD	Under 5 upwards	..	3	2	12	2	..	..	..	..	..	..	..	11	17	..	..	1	12	32	20	2	56	3	..	52
		1	2	1	4	1	..	..	..	2	1	1	..	3	1	1	..	30	7	..	57	3	21	3	128	
SWINTON AND PENDLEBURY	Under 5 upwards	4	1	1	18	2	..	..	..	..	1	..	29	6	..	..	..	9	28	16	36	1	30	4	..	44
		..	1	1	..	1	..	..	..	7	4	..	2	2	..	..	..	25	3	..	57	..	9	9	97	
THORNTON	Under 5 upwards	5	..	..	..	..	..	..	..	..	..	..	2	1	2	..	..	1	..	1	3	4	..	..	9	
		..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	4	..	..	..	28	
TOTTINGTON	Under 5 upwards	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	8	3	3	2	2	21	..	..	7
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	13	..	..	..	27	
TRAWDEN	Under 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	3	..	4	6	..	..	..	..	6
		..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	3	..	4	8	1	..	..	..	18
TURTON	Under 5 upwards	1	..	..	1	1	..	1	..	..	6	..	2	2	3	..	..	9	2	10	8	11	..	7	..	19
		..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	25	2	..	..	..	58

TABLE II.—Continued.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
URBAN DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtthisis (Pul. Tuberculosis).	Other Tuberculous Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.
								Typhus	Enteric	Other continued														
TYLDESLEY-WITH-SHAKERLEY	Under 5..	..	2	3	..	..	1	..	..	..	..	12	4	..	..	1	14	..	21	..	1	2	..	42
	5 upwards	..	..	3	..	..	..	13	..	6	..	1	1	..	..	10	4	11	24	..	21	8	1	62
ULVERSTON	Under 5..	..	2	1	..	2	..	..	..	2	..	9	..	..	..	10	3	9	8	3	13	2	..	11
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	21	..	..	2	2	56
UPHOLLAND	Under 5..	..	..	..	5	3	..	..	..	1	..	1	3	1	..	2	1	3	6	2	5	..	..	12
	5 upwards	..	..	..	..	..	..	..	..	2	..	..	..	..	..	7	1	8	7	..	..	2	..	24
URMSTON	Under 5..	..	1	2	2	..	..	2	..	2	..	4	1	..	..	7	1	8	1	1	7	1	..	10
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	16	..	..	..	3	29
WALTON-LE-DALE	Under 5..	..	9	..	..	..	..	..	..	1	..	4	8	..	..	7	7	9	11	1	1	1	..	31
	5 upwards	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..	17	..	16	..	2	42
WARDLE.....	Under 5..	..	1	1	..	1	..	..	..	1	..	1	1	..	..	5	1	3	1	..	4	3	..	3
	5 upwards	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	4	..	..	..	..	19
WATERLOO-WITH-SEAFORTH	Under 5..	..	4	3	3	2	..	..	..	..	..	9	19	1	..	25	7	17	18	1	25	1	..	45
	5 upwards	..	..	2	..	1	..	1	..	..	..	1	2	..	..	..	2	..	36	..	..	7	2	111
WESTHOUGHTON	Under 5..	..	..	..	..	5	..	..	..	1	..	7	13	2	..	1	5	11	31	2	21	2	..	54
	5 upwards	..	..	..	..	3	..	..	..	3	..	1	3	..	..	6	4	..	33	..	..	9	1	51
WHITEFIELD.....	Under 5..	..	1	4	1	2	..	2	..	..	..	1	..	..	..	5	9	2	7	1	18	..	..	10
	5 upwards	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	4	..	14	..	..	2	4	32
WHITWORTH.....	Under 5..	..	..	1	4	3	..	..	..	..	..	..	2	..	1	12	10	1	5	..	1	1	..	19
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	5	7	18	..	12	..	1	53

TABLE II.—Continued.

URBAN DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																									
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtthisis (Pul. Tuberculosis).	Other Tuberculous Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.		
WIDNES (Borough).....	Under 5..	..	11	..	1	1	1	1	..	16	44	9	..	15	37	..	1	5	..	89
	5 upwards	..	1	..	..	1	..	..	..	13	..	4	16	..	..	..	21	6	6	15	72	..	35	12	2	137
WITHNELL	Under 5..	..	..	..	..	..	..	..	..	..	..	4	2	..	..	..	..	2	..	2	..	1	7	1	..	4
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	2	5	1	1	1	..	19
WORSLEY	Under 5..	..	1	..	3	1	1	..	..	..	..	2	..	..	..	..	1	6	6	..	10	..	..	2	..	24
	5 upwards	..	..	1	1	..	..	..	..	..	..	2	..	..	..	..	11	2	2	6	21	2	13	5	3	57

TABLE III.—DEATHS registered during the year 1908 in the RURAL DISTRICTS of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-rate and Death-rates therein during the year.

NOTES.—(a) The Area and "Census" Population of each District are taken from the Census Return.
(b) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the District are excluded.

RURAL DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1908.		Birth-rate.	Death-rate.	Death-rate from the seven principal epidemic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
BARTON-UPON-IRWELL ..	6872	8065	9150	189	20·6	13·9	1·20	0·43	1·96	100	128	19	11	6	6	44	42
*BLACKBURN	20150	8238	8238	190	23·0	12·5	0·12	0·72	2·06	73	103	14	5	3	5	46	30
BURNLEY	42325	17470	19800	427	21·5	12·2	0·45	0·35	2·22	114	242	49	14	8	17	95	59
BURY	12014	8088	8480	199	23·4	13·4	0·82	0·82	2·12	80	114	16	12	2	2	45	37
CHORLEY	39988	19310	21300	530	24·8	14·3	0·79	0·65	2·01	105	305	56	26	19	15	102	87
CLITHEROE (Lancashire portion)	32231	5845	5845	124	21·2	15·3	0·68	1·53	2·39	80	90	10	2	..	4	35	39
FYLDE	38768	10235	11388	287	25·2	13·7	0·87	0·43	2·72	111	157	32	11	9	8	47	50
GARSTANG	57380	10437	10437	237	22·7	12·7	0·47	0·76	1·72	84	133	20	5	4	7	46	51
LANCASTER	54503	8837	8987	210	23·3	12·3	0·44	1·00	1·33	52	111	11	6	..	8	48	38
LEIGH.....	11574	8410	9140	294	32·1	16·9	2·07	0·87	3·39	136	155	40	15	9	4	46	41
LIMEHURST	4772	10338	10800	284	26·2	16·1	1·48	0·74	3·05	133	174	38	15	6	12	63	40

TABLE III.—Continued.

RURAL DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1908.		Birth. Rate.	Death. Rate.	Death-rate from the seven principal Epidemic Diseases.	Phthisis Death-Rate.	Respi-ratory Death-Rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
LUNESDALE	76267	6948	6948	184	19.2	10.0	0.28	0.86	1.15	59	8	3	..	1	20	38
*PRESTON	52929	15997	15997	446	27.8	12.8	0.43	0.68	2.37	94	42	14	8	6	61	75
SEFTON	14866	5808	5808	107	18.4	13.6	0.51	0.86	2.58	65	7	5	4	4	30	29
ULVERSTON	127871	17716	17716	337	19.0	13.3	0.67	1.12	1.63	91	31	8	4	12	86	96
*WARRINGTON	19360	10496	12826	283	22.0	11.4	1.55	0.54	2.18	109	31	15	18	2	47	34
WEST LANCASHIRE.....	62007	19689	21040	500	23.7	13.7	0.76	0.80	1.66	98	49	15	14	11	89	112
*WHISTON	31281	18961	20730	519	25.0	10.9	0.77	0.43	2.26	77	40	16	8	10	75	79
WIGAN	11695	6045	6925	168	24.2	16.6	1.73	0.28	3.89	107	18	12	7	4	49	25

* Population and deaths in Public Institutions excluded

TABLE IV.—DEATHS registered during the year 1908 in the **RURAL DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
RURAL DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtisis (Pul. Tuberculosis).	Other Tuberculous Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases.	Accidents.	Suicides.	All other Diseases.	
								Typhus.	Enteric.	Other continued.																
BARTON-UPON-IRWELL ..	Under 5 .. 5 upwards	..	1	..	4	1	..	..	2	..	1	..	..	1	1	1	4	3	4	4	2	1	2	1	14
		..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	7	..	14	12	3	1	42	
	Under 5 .. 5 upwards	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	6	2	7	3	..	1	3	1	14
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	..	1	37
	Under 5 .. 5 upwards	..	2	2	..	1	1	1	..	1	..	1	..	3	2	7	5	12	15	..	1	14	7	34
		..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	3	29	4	33	14	..	69
BURY	Under 5 .. 5 upwards	..	..	..	1	1	1	..	1	..	1	..	3	2	..	1	1	6	1	5	14	12	4	4	13
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4	4	35	
CHORLEY	Under 5 .. 5 upwards	..	..	1	2	5	2	..	4	..	1	..	3	11	1	1	14	7	17	15	2	25	14	8	35
		..	..	..	..	2	..	..	..	..	6	..	..	..	1	1	..	4	28	2	..	1	14	96	
CLITHEROE (Lancashire portion)	Under 5 .. 5 upwards	..	..	..	2	1	..	..	1	..	6	..	..	..	..	1	9	1	4	4	10	5	4	..	4
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	38

TABLE IV.—Continued.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																											
RURAL DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis.)	Other Tuberculous Diseases	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.		
								Typhus	Enteric	Other continued																	
FYLDE	Under 5... 5 upwards	..	..	..	3	3 2	..	..	..	3	..	1	2	..	..	..	5	5 4	.. 8	12 19	..	10	4 3	.. 3	14 54
GARSTANG	Under 5... 5 upwards	1	..	2	1	..	..	..	..	3	..	..	2 1	..	..	..	8	..	4	3 15	..	21	.. 2	.. 1	19 49
LANCASTER	Under 5... 5 upwards	..	..	..	..	..	..	..	..	1	..	2	..	1	..	..	9	2	5	4 8	1	13	1 5	.. 4	9 44
LEIGH.....	Under 5... 5 upwards	..	1	..	2	4	..	..	..	..	..	10	..	..	..	..	8	1 2	6	15 16	2	11	1 2	.. ..	24 47
LIMEHURST	Under 5... 5 upwards	..	..	1 1	2	1	..	..	..	1	..	7 2	1 1	..	..	..	8	4 3	6	9 24	2	22	2 10	.. ..	26 39
LUNESDALE	Under 5... 5 upwards	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	6	1	7	2 6	..	8	1 1	.. ..	5 31
PRESTON	Under 5... 5 upwards	..	1	..	2	2	..	..	1 1	3	..	..	3 2	..	..	..	11	1 1	12	13 25	1	21	1 5	.. 4	32 64
SEFTON	Under 5... 5 upwards	..	..	..	..	..	..	..	2	..	..	..	4	1	..	..	5	1	3	1 14	..	10	.. 7	.. ..	7 23
ULVERSTON	Under 5... 5 upwards	..	2 1	..	3	1	..	..	1	4	..	4	..	..	..	..	20	4 5	23	7 22	4	26	.. 8	.. 6	18 78
WARRINGTON	Under 5... 5 upwards	..	3	..	2	2 8	..	..	1	..	1	4	2	..	..	1	7	1 3	6	8 20	2	12	1 11	.. 1	22 29

TABLE IV.—Continued.

RURAL DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Epidemic Influenza.	Cholera.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Phtthisis (Pul. Tuberculosis).	Other Tuberculous Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Diseases	Accidents.	Suicides.	All other Diseases.	
WEST LANCASHIRE	Under 5..	5 upwards	..	..	3	6	..	..	..	..	..	..	1	..	3	2	..	..	3	..	14	10	..	1	1	..	37
	..	..	..	1	1	..	..	..	..	..	..	..	9	..	..	3	2	..	17	3	..	25	4	39	13	2	88
WHISTON	Under 5..	5 upwards	..	2	3	..	..	..	..	..	..	..	5	..	3	1	..	..	6	..	16	11	..	1	..	..	28
	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	9	..	..	36	..	19	13	1	65	
WIGAN	Under 5..	5 upwards	..	1	..	6	..	..	..	..	..	..	2	..	2	2	..	2	2	2	2	5	..	6	10	..	12
	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	22	..	..	..	..	35	

TABLE V.—DEATHS and CASES NOTIFIED (or ascertained) in the County Districts during the Year ending Dec. 31st, 1908.

* NOTE.—These figures represent the totals of the Returns supplied Monthly, and not the totals of the Annual Report Statistics.

MONTH.	Small-pox.		Diphtheria.		Mem-branous Croup.		Erysipelas.		Scarlet Fever.		FEVER.				Measles.		Chicken Pox.		Whooping Cough.		Total of preceding columns.		Deaths from				Deaths from all Causes.				
	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Typhus.		Enteric.		Other or doubtful.		Puer-peral.		Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Diarrhea and English Cholera.	Bronchitis, Pneumonia, and Pleurisy.	Influenza.	Alcoholism, Peripheral Neuritis, and Allied Causes.					
							Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.														Notified Cases.	Deaths.	Notified Cases.	Deaths.
Jan. . . .	..	..	156	24	8	9	108	3	507	12	..	..	73	19	..	..	13	7	20	30	10	1	2	63	897	168	22	562	47	12	2429
Feb. . . .	..	..	164	24	12	7	86	4	444	19	..	..	62	8	..	..	13	3	78	29	5	1	23	47	887	142	16	438	133	11	2258
March..	..	..	131	22	13	6	107	2	454	12	..	..	52	15	..	..	12	4	15	24	10	..	63	61	857	146	22	538	66	5	2174
April ..	..	..	106	15	6	3	95	6	443	13	..	..	69	10	1	..	8	6	138	18	5	..	74	53	945	124	17	416	21	11	2003
May	1	..	147	18	4	2	75	1	437	23	..	..	88	13	3	1	18	7	336	32	4	1	44	41	1157	139	30	312	18	8	1907
June....	..	..	107	13	6	2	94	1	344	12	..	..	45	8	..	..	9	3	33	21	4	..	30	35	672	95	25	247	4	6	1807
July ....	..	..	103	11	6	1	61	1	473	7	..	..	57	10	1	..	11	5	44	19	..	..	17	28	773	82	101	193	5	8	1744
August .	1	1	73	10	..	..	77	1	402	10	..	..	104	14	2	..	6	5	28	20	..	..	1	26	694	87	396	171	7	18	2042
Sept....	..	..	112	15	1	1	69	2	485	10	..	..	124	23	3	..	7	3	8	15	4	..	1	10	814	79	287	209	6	10	1917
Oct.....	..	..	139	20	7	5	71	..	533	11	1	..	172	15	3	2	9	5	4	23	2	..	2	12	943	93	206	278	13	11	2052
Nov. ....	..	..	175	31	10	4	102	3	734	18	..	..	154	32	3	..	18	5	21	29	..	..	3	17	1220	139	89	523	12	8	2214
Dec.....	..	..	155	21	11	4	113	4	714	23	..	..	182	33	..	..	14	4	7	51	11	..	40	14	1247	154	31	498	20	17	2226
*Year ..	¶2	1	1568	224	84	44	1058	28	5970	170	1	..	1182	200	16	3	138	57	732	311	55	3	300	407	11106	1448	1242	4385	352	125	24773

† Notifiable in 4 districts.

‡ Temporarily notifiable in 2 districts.

§ Cases reported voluntarily in a few districts.
¶ A third case notified, but on removal to hospital diagnosis not confirmed.

COUNTY HEALTH ADMINISTRATION.*

The power given by the Local Government Act, 1888, Sec. 17 (2) to County Councils for rendering the services of their Medical Officers of Health available in County districts, indicated apparently a desire on the part of legislature to enlarge the area for direct Administrative control, and possibly secure greater efficiency with, at the same time, more economy. With few exceptions this provision in the Act did not meet with the approval of District Councils, who, as a rule, prefer to control their own officials, and County Councils were not able nor desirous of offering them any inducement to give up their freedom of action. The proposal for grouping and consolidating districts in a large County for sanitary purposes, even if advisable, would be extremely difficult, and would be met with great opposition from district representatives and from those now holding office, unless it was at the same time accompanied by proper compensation. I believe it is far better for district authorities, in combination if possible, to be entirely responsible for their own sanitary government, with the assistance and advice of the County Medical Officer available when required. The latter, as an official of the County and independent of local considerations will, in my opinion, be more competent to carry out impartially his supervisory functions, and tender advice to the County Council as to any shortcomings in their administrative area. The view of the present Government as to the utility of the scheme originally foreshadowed, is shown by the introduction of a clause in the Housing, Town Planning, &c., Bill, which provides for the withdrawal of this power on the part of the County and District Councils for arranging with respect to the joint services of a Medical Officer of Health.

* Portion of an Address delivered by Edward Sergeant, M.R.C.S., L.R.C.P. (Lond.), L.S.Sc., Medical Officer to the Lancashire County Council, at a Meeting of the Society of Medical Officers of Health, on Nov. 13th, 1908.

The Council of each County has an important obligation imposed on them to pay out of the Exchequer Contribution Account to every Local Authority one-half the salary of their Medical Officer of Health, providing the appointment, salary and tenure of office "are in accordance with the Public Health Act, 1875, or any Act repealed by that Act." But it is also provided that no payment shall be made "if the Local Government Board certify to the Council that such officer has failed to send to the Local Government Board such reports and returns as are for the time being required by the regulations respecting the duties of such officer." You will observe that County Councils are merely required under certain specified conditions to make contributions to salaries, but they have no authority whatever in the making of the appointments or providing for the tenure of office, nor can they extend support to an official who may happen to be penalised for excess of zeal displayed in the carrying out of his public duties. Even the Local Government Board seem to be powerless when, as occasionally happens, district councils refuse to re-elect a Medical Officer of Health at the conclusion of his period of office, although he may have conducted himself *sans peur et sans reproche*. Cases of great hardship might have been prevented if the Board had possessed the power of intervention, or if the recommendation of the Royal Sanitary Commission, made so far back as 1869, had become law, to the effect that a Medical Officer of Health "should not be removable from office by any Local Authority except with the sanction of the central authority." The smaller, and a few of the whole-time appointments, are limited to one year, but they occasionally extend over two, three, or five years. Sir Walter Foster, Parliamentary Secretary to the Local Government Board, in 1895, stated that "the Board had arrived at a rather important decision, viz., that we consider these appointments for short periods and precarious tenure injurious to the

public health. . . . Men holding appointments for very limited periods cannot be expected to discharge their duties in that fearless and thorough manner which those duties require for the safety of the public, and we are anxious to encourage local authorities to give up the system of short appointments." The Board, about that time I believe, intimated to local authorities that under certain conditions appointments might, with advantage, be made for longer periods, and, if possible, permanent, *i.e.*, during good behaviour; but judging by the districts of the County with which I have the honour of being connected, their advice did not receive the attention it deserved.

The question of salary has also some bearing on the amount of work expected to be carried out by a Medical Officer of Health, and indicates the importance of that work in the eyes of the Authority which he serves. For some years, I am happy to say, the Local Government Board has tried to influence local authorities, especially the larger ones, in the direction of paying adequate salaries; but in many of the smaller sanitary districts not more than £20 to £30 per annum is still considered sufficient remuneration for the carrying out by the Medical Officer of Health of his ever-increasing duties. Such salaries are too paltry even in the smallest districts for the conscientious performance of high-class professional services relating to sanitation, preparation of statistics, and other matters which have to be reported on periodically, and form annually the subject of an elaborate report.

A District Medical Officer of Health has an important duty to observe in relation to County Councils on which is based much of the County sanitary work; under Sec. 19 of the Local Government Act, it is necessary for him to supply the County Council with a copy of every periodical report, including, of course, his annual report, prepared in conformity

with the regulations of the Local Government Board; and “if a Medical Officer of Health fails to send such copy, the County Council may refuse to pay any contribution, which otherwise the Council would, in pursuance of the Act, pay towards the salary of such Medical Officer.” In addition, the regulations of the Board in 1891, respecting the duties of an Urban or Rural Medical Officer of Health, require him to transmit to the County Council, a copy of any report he may make to the Local Government Board on any outbreak of infectious disease, or on any matter, such as school closure, which may form the subject of a special report. On the County Medical Officer devolves the duty of collating these reports for the information of his Council, and if it appears from any report that the Public Health Act, 1875, has not been properly put in force in any district, or that any matter affecting the public health of a district requires to be remedied, the Council may cause a representation to be made to the Local Government Board. This would probably be made under the Public Health Act, 1875, Sec. 299, and the Local Government Board, if satisfied after due inquiry of the alleged default, may make an order on the Local Authority for the performance of their duty, or appoint a person to perform the duty and recover the expenses from the Local Authority. Similar powers can now be exercised by the County Council under the Local Government Act, 1894, Sec. 16, in case of default in sanitary administration by a Rural District Council; the Parish Council may complain to the County Council, and, if after inquiry the County Council are satisfied that there has been a failure as regards the subject-matter of the complaint, they may resolve that the duties of the District Council for this purpose shall be transferred to them. On no occasion has the Lancashire County Council made a statutory complaint to the Local Government Board, under Section 299 already mentioned, respecting any district authority, as, I am glad to say, it has been found

sufficient and more expeditious to communicate directly with the districts in default. I may also state that it is only on very rare occasions that Parish Councils appeal to the County Authority in regard to sanitary neglect in Rural Districts.

The County Council, by becoming possessed of the reports periodically issued by District Medical Officers of Health, are enabled to compile valuable vital statistics, and obtain information concerning sanitary matters which, for comparative purposes, are much appreciated. The annual reports issued by Medical Officers of Health are prepared with greater care and uniformity than formerly, when they merely attained the distinction of being pigeon-holed in the district offices. Useful information is now given by the Medical Officer of Health, in accordance with the regulations of the Local Government Board, as to the action his Authority has taken, or been advised to take, for preventing the spread of disease, and with respect to the sanitary supervision over the places and houses that the Local Authority have to regulate, together with the nature and results of any proceedings which may have been necessitated. The report is also required to contain a record of the action taken in regard to offensive trades, to dairies, cowsheds, and milkshops, and to factories and workshops. Other information regarding water supply, scavenging, sanitary supervision of elementary schools, and any matters of sanitary interest are, as a rule, referred to in the report, and subjected to criticism in the annual digest of the County Medical Officer of Health. In districts where sanitary matters receive insufficient attention, it is accepted as the duty of the supervisory authority—although not specified by Act of Parliament—to stimulate and encourage the lagging footsteps of local bodies, and it is interesting to observe how much a little tactful advice will accomplish. Local Medical Officers of Health have invariably given me the fullest information on any subject appertaining to their districts, and to

their credit, I may mention that monthly returns are voluntarily supplied to the County with reference to deaths and infectious disease ; and, since the passing of the Midwives Act, 1902, particulars respecting cases of puerperal fever are reported to me immediately after notification.

It was intended when the Local Government Act was before Parliament, that County Councils should be given direct controlling power over sanitary matters in the districts within their administrative areas, either on local complaint or on their own initiative ; and later in the Session of 1889, Mr. Ritchie introduced a Provisional Order Bill, which contained proposals for transferring to County Councils a variety of central powers, which, if carried out, would practically have meant the substitution of the County Council for the Local Government Board as authority of control, although it was not proposed to transfer, as was intended by the decentralising schedule of 1888, the important powers given to the Local Government Board by Section 299 of the Public Health Act, 1875. District Councils and Non-County Boroughs throughout the country strongly resented the proposal that they should be made subject, as regards their sanitary administration, to the County Authorities, and, owing to this opposition, Mr. Ritchie's Bill was not proceeded with. As I have already mentioned, District Councils in Lancashire have, with few exceptions, shown an earnest desire to carry out their public duties, and judicious advice has been well received ; but there is still much to be expected from the " coerciveness of knowledge and public conscience. "

POLLUTION OF RIVERS.

Another work given to County Councils on their formation relates to the pollution of rivers, and no one will deny that it has been carried out conscientiously and proved of immense sanitary value. By section 14 of the Local Government Act, a County Council is authorised to enforce the provisions of

the Rivers Pollution Prevention Act in regard to streams which belong to the County or pass through, or by any part of its area "as if they were a Sanitary Authority within the meaning of that Act." I may observe that for a period of twelve years, no serious action was taken by sanitary authorities against polluters, and the Act passed in 1876, remained practically inoperative, and was spoken of as "utterly unworkable and useless," an opinion based on the experience of a few public authorities who had initiated proceedings under the Act in a faint-hearted and perfunctory manner. When County Councils and the more powerful Joint Committees, created under Section 14, sub-section 3 of the Local Government Act commenced their work, it was at once recognised that Sanitary Authorities would be required to deal effectually with their sewage, and that polluting trade effluents would not be allowed to enter streams as heretofore. At the commencement of the new régime, manufacturers were soon up in arms, and even public bodies refrained from taking action until a few successful prosecutions showed that no one, however powerful, could escape—in Lancashire at any rate—from the operation of the Act. The Joint Committees have supervision of very wide areas, and the constituent authorities comprise Administrative Counties and County Boroughs. The two Lancashire Watershed Committees, viz., the Mersey and Irwell Joint, and the Ribble Joint, were created in 1891, after Local Government Board inquiries. These Watershed Committees, composed of members representing the whole watershed area under their jurisdiction, carry out their functions, I believe, more economically and efficiently in their joint capacity than as separate authorities, and it is difficult to explain why so few combinations of this kind have been formed in the large manufacturing centres of the country.* It should be thoroughly understood that these

* I find that the Royal Commission on Sewage Disposal (Third Report, 1903) recommend that River Boards should be formed for other parts of the country, similar to those which now exist in Lancashire.

Joint Committees were only given the powers already possessed by urban and rural Sanitary Authorities, and such powers are exercisable concurrently without any abolition or curtailment of local control. But experience shows that when Joint Committees commenced their operations, they so completely carried out their duties, that Sanitary Authorities ceased to act. The Mersey and Irwell Committee represents a powerful combination possessed of ample means for enforcing authoritatively due observance of the law relating to pollution. It comprises portions of the three Administrative Counties of Lancashire, Cheshire and Derbyshire, the important City of Manchester, and the County Boroughs of Salford, Oldham, Bolton, Rochdale, Bury, and Stockport. The following is a summary of the area, population, and rateable value of this watershed as recently estimated :—

	Acreage at Formation.	Estimated Population.	Rateable Value.
Lancashire	262,718	846,606	£ 3,778,549
„ County Boroughs	32,656	1,347,420	7,176,427
Cheshire	250,348	276,073	1,495,924
„ Stockport (C.B.)	2,200	102,340	430,051
Derbyshire	20,781	53,371	285,044
	568,703	2,625,810	13,165,995

The Joint Committee of the Ribble Watershed is composed of representatives of the Administrative County of Lancashire, and the County Boroughs of Blackburn, Burnley, Preston, and Wigan; the drainage area—368,640 acres—is under their jurisdiction, with a population estimated at the last census at 1,122,864, and a rateable value in 1905 of £4,168,220.

When these Committees came into being, many of the large towns were accustomed to treat their sewage, but only exceptionally was the effluent sufficiently purified to allow of its entrance to a river without causing serious pollution. Of the forty-one towns in the Mersey and Irwell watershed, eighteen were entirely without any means of dealing with sewage, and their systems of sewerage were more or less imperfect. Urban authorities in a few instances treated their sewage, but it was stated at the Local Government Board inquiries, *re* the formation of Joint Committees in Lancashire, that even where works existed they were only used on "show" occasions, or during "certain times of the day," and the storm-overflows at the works were so arranged as to allow large volumes of sewage to pass continuously into the rivers untreated. When a flood occurred, offensive deposit was washed from the sewers or from the bed of the stream on which it had accumulated, and the various impurities, both in suspension and solution, were so concentrated as to poison or suffocate fish wholesale. The Ribble, which at one time had a great reputation for its salmon, and is, I believe, once more regaining it, was occasionally affected to a serious extent, and I have myself seen tons of fish destroyed in this way floating down the river.* The late Frank Buckland observed that a fish poisoned by pollution, as a rule died "with the gills and mouth widely extended as if gasping for breath." Damage due to sewage deposit was also done to the spawning beds, while the destruction of weeds and insect life forming the food of fish further aggravated the evil.

The principal sources of river pollution by manufacturing refuse within the Mersey and Ribble basins are derived from dye, print, and bleach-works, chemical works, tanneries, paper-making, woollen works and silk works. These trade

* The rivers Eden, Lune, and Dee, on the west coast, have also been seriously affected by sewage deposit. (See Report of Royal Commission on Sewage Disposal, Appendix VI.)

pollutions are amenable to chemical and mechanical remedies, which may be applied without interfering with the manufacturing interests, and as "necessity is the mother of invention" certain processes are now available for dealing profitably with many of the by-products. As a few instances, I may mention the employment of the well known process for recovering crude oil from the soapsuds used in dyeing operations and wool washing. In the indigo dyeing trade the spent vat liquors and wash waters, after settlement, give a sludge containing so much indigo that it can be profitably re-used. In the paper trade, the strong alkali liquors obtained by boiling esparto grass with alkali, and which at one time were a source of gross pollution, are now evaporated, burnt, and the soda present in the resultant ash practically repays the cost of treatment. The waste waters from the paper machines also give sludge which is of considerable value. Mr. Halliwell, Chief Inspector of the Ribble Watershed Committee, informs me that a paper manufacturer, against whom an Order was obtained for turning the sludge from the settling tanks into the river, has found his sludge to be of such value for paper making, that he is able by its use to effect a saving in raw material amounting to over £1,000 per annum. In the manufacture of soap, the spent lees are concentrated and distilled, and the glycerine, which at one time was turned into the river, is recovered; and, as a further example of saving, may be mentioned the recovery and conversion into coke of the sludge deposited in coal washing, which formerly was passed into the streams and formed a serious pollution.

One of my first duties as County Medical Officer required me to make an inspection of the rivers of Lancashire in regard to their state of pollution, and I had occasion to point out that many of them were more or less silted up by solid matter in the form of ashes from manufactories, household refuse (including the contents of ashpits), &c. Foul emanations were given off during the process of decomposition, which

proved distinctly offensive and possibly injurious to the health of persons living in the vicinity. This form of solid pollution, I am glad to say, received immediate attention on the formation of the Joint Committees, and only a very short time elapsed before the nuisance ceased, although the injurious effects of the refuse deposited on the beds of the rivers may still be seen. The methods adopted by towns and urban districts in dealing with their sewage also soon came under the notice of the Joint Committees, and owing to the firm pressure applied, there is not one authority within their jurisdiction now without effective means of treatment. Careful supervision is exercised over the various sewage works in operation, and samples are taken periodically to see that the sewage continues to receive reasonable and proper purification. The same may be said of the trade effluents which are generally dealt with on approved methods, and I believe without injury to the commercial interests involved. The vast amount of work carried out by the Joint Committees and by many of the County Councils, has been enormously expensive, but without doubt it has proved entirely beneficial, and of immense sanitary value, and those who have in any way rendered assistance deserve the greatest credit.

POLLUTION OF ESTURIAL AND TIDAL WATERS.

Although much has been done to improve the condition of our rivers, there still remains to be dealt with the tidal waters (esturial and other), and foreshores of a large portion of Great Britain, which receive serious pollution from the improper discharge of untreated sewage. For some years past shell-fish (oysters, cockles and mussels) gathered from sources exposed to sewage contamination have been recognised as the cause of numerous well-known outbreaks of enteric fever, and shell-fish, however slightly contaminated, more especially when eaten raw, cannot be looked upon as free from danger. The extent of the danger is great as regards Lancashire, for very few, if any, of the mussel or cockle beds can be

said to be outside the "sewage zone" or uninfluenced by the polluting estuarial waters. Bacteriological investigations by Professor Herdman have shown the presence of the *B. coli* in practically all the mussels* taken from the Lancashire coast; the sewage micro-organisms not being so frequently found in cockles, as apparently they have the power of cleaning themselves more readily than mussels (Klein). As the *B. coli* is not found in unpolluted salt-water fish, its presence must be regarded with suspicion, and as evidence that the shell-fish has lived in sea-water contaminated with sewage. It always indicates "the possibility that the shell-fish in which it is found may, under certain circumstances, come to harbour microbes of a nature strictly pathogenic, such as the typhoid bacillus, but when the number of *B. coli* in a mussel is few, then this possibility is remote.†" Only a few instances are recorded of the *B. typhosus* having been isolated from shell-fish, but there is reason to believe that it is not infrequently present. The investigations of Sir Rubert Boyce and Professor Herdman also show the inimical effect of sea-water on the growth of the typhoid bacillus‡; it is also interesting to observe that the organism does not increase in the body or in the tissues of the oyster, and that it perishes in the intestine. Its presence indicates recent and therefore dangerous pollution if accompanied by large numbers of *B. coli*. The vitality of the typhoid bacillus in sea-water and in water of different degrees of salinity has an important bearing upon the question of risks of specific pollution||, and in respect of oysters, Dr. Klein believes "that there is no such immediate disinfectant action possessed by sea-water as was formerly assumed, and that, therefore, persons who place oysters near to sewage outfalls in this belief, have no sufficient justification." He is

* Samples mostly taken from suspected areas.

† Report (1906) in connection with the Lancashire and Western Sea Fisheries, by Professor Herdman, assisted by Mr. James Johnstone.

‡ In experimental oysters inoculated with typhoid, the organism could be recovered from the body of the oyster up to the tenth day.

|| Dr. Bulstrode on oyster culture in relation to disease (Local Government Board twenty-fourth Annual Report).

of opinion, however, that in sea-water there is not much tendency to multiplication on the part of the typhoid bacillus, and the vitality of this organism is not indefinitely maintained there.

From another point of view the discharge of crude sewage into the open sea at low-water mark, or into an estuary, is important, especially if the tidal currents are not sufficiently strong to remove or dissipate the polluting matters without fear of their return, or of their deposition in dangerous proximity to the shore. In the case of an estuary the sewage may be carried out to sea very slowly, and supposing it to be discharged on the ebb tide, it may be carried only a short distance before it is driven back by the flood, and so oscillate backwards and forwards, causing possibly a nuisance dangerous to health. As such conditions affect some of our chief watering-places they cannot be regarded with equanimity. I am, therefore, pleased to observe that this question has had the close consideration of the Royal Commission on Sewage Disposal, and in their fifth report they express the opinion "that unless the tidal currents are exceptionally strong and the volume of tidal water available for diluting the sewage is large in a given locality, the heavy solids of sewage and trade wastes should not be allowed to be discharged into tidal waters," and they also suggest that no outfall should be permitted which discharges crude sewage at such a point that at low water the sewage flows either on to a stripped foreshore or into slack water.

ISOLATION HOSPITALS ACTS.

Soon after the County Sanitary Administration came into force, it was found that Local Authorities were inadequately supplied in respect of hospital accommodation for isolating cases of infectious disease. In 1892, the County Councils' Association promoted a Bill to make provisions for such hospitals. In the following year the Bill was amended, and under the able guidance of Lord Thring, it became law

as the Isolation Hospitals Act, 1893, and County Councils were empowered to establish in any of their districts an isolation hospital for the reception of patients suffering from infectious disease. The initiative action can be taken by the County Council in consequence of an application made to them by any Local Authority, Urban or Rural, or twenty-five or more ratepayers, or as a result of an inquiry made by the County Medical Officer of Health at their request. On the County Council being satisfied as to the necessity of an isolation hospital, they may constitute a "hospital district," consisting of one or more local areas, and also a committee for the management of the hospital, composed of representatives of the sanitary authority or combined authorities, with the addition of members of the County Council if thought fit. Power is given to the County Council by Section 21, to contribute a capital or annual sum towards the structural and establishment expenses of an isolation hospital so provided, or to either class of such expenses, and by an amending Act passed in 1901, the County Council may extend their contribution to any hospital established by a Local Authority under Section 131 of the Public Health Act, 1875. The question of contribution has been much discussed by County Councils, and the methods adopted are by no means uniform. In Cheshire, the Council contribute to isolation hospitals, for which loans have been sanctioned, one-third the cost of site, buildings, and maintenance; to some districts retaining beds in hospitals, one-third of the annual cost; and to old hospitals, one-third annual cost of maintenance. The Derbyshire County Council pay one-fifth cost of construction, but this must not exceed £40 per bed; in addition, a grant of £10 per bed is made annually towards the establishment expenses. In Essex, £5 per bed is paid to hospitals erected out of loans, and this contribution, in 1907, amounted to about £1,500. In Northamptonshire, the Council pay one-half of the establishment expenses of isolation hospitals, equivalent to about

£475 per annum. In Lancashire, the difficulty in the way of making a fair and equitable contribution towards the isolation hospitals erected under the Public Health Act, 1875, has decided the Council to make no contribution, and as far as I am aware, the Local Committees are quite satisfied to carry out unaided their duties in regard to hospital provision. Other counties, for instance, Durham, Northumberland, Salop, West Riding of Yorkshire, Worcester, &c., have, I believe, adopted a similar line of action.

By the application of judicious pressure, County Councils have been enabled to secure the hospital accommodation which was wanting previous to the passing of the Isolation Hospitals Act, and in regard to the County in which I serve, the majority of districts are now provided either directly with hospital accommodation, or have acquired the privilege of sending infected patients into hospitals provided by neighbouring authorities. Large combined districts have also been formed for the isolation of small-pox, and these have effected a great saving, with increased efficiency, as compared with the efforts of individual authorities. In Lancashire, the proportion of cases removed from hospital-provided districts varies considerably according to the disease and character of accommodation. The following table shows the cases of infectious disease, other than small-pox, treated in hospital as compared with home treatment during the five years, 1903-1907.

Disease.	Where treated.	Cases.	Deaths.	Mortality Per Cent.	Percentage of notified cases isolated in Hospitals.
Scarlet Fever	Hospital	11,820	328	2·7	} 29·8
	Home...	27,739	981	3·5	
Diphtheria...	Hospital	1,398	161	11·5	} 16·4
	Home...	7,126	1,346	18·8	
Enteric Fever	Hospital	1,860	355	19·0	} 30·2
	Home...	4,296	826	19·2	

Although I do not propose to enter into the controversy as to the utility of isolating scarlet fever, which was started by Dr. Wilson, of Lanarkshire, in 1897, I must say that as far as my experience goes, a scarlet fever patient has a better chance of recovery in a properly constituted hospital, than in the ordinary cottage home, and I know how much removal is appreciated by the public at large, whether engaged in business or otherwise, and I may say also by the patients themselves. I quite agree that the hospital isolation of scarlet fever has not quite answered expectations in regard to the curtailment of disease, but at the same time, no efficient sanitary authority can do without it. The non-removal policy I always look upon as possessed of many attractions for parsimonious authorities, but to my mind, it seems very selfish to endanger the health of neighbouring districts, while engaged in the hopeless attempt to procure isolation in the ordinary dwelling of the working class.

PROVISION OF SANATORIA FOR THE TREATMENT OF CONSUMPTIVES.

Under the Isolation Hospitals Act, as already mentioned, a County Council may constitute a committee to provide hospital accommodation for patients suffering from infectious diseases, *i.e.*, from those specified in the Infectious Diseases (Notification) Act, 1889, while under Section 26 of the Isolation Hospitals Act, 1893, the term "infectious diseases" may be applied to any other disease, such as pulmonary tuberculosis, by order of the County Council with the consent of the Local Government Board. In such an order the County Council may form a hospital committee or committees, under the Isolation Hospitals Act, for the specific purpose of providing hospital accommodation for consumptives, and may contribute towards the cost or maintenance of such hospital. The hospital committee has also power, under Section 3 of the Isolation Hospitals Act, 1901, to enter into agreement with

Local Authorities for the use of the whole or part of a hospital for the reception of their patients, and defray the expenses of such accommodation. There is therefore ample power on the part of County Councils to erect or to purchase sanatoria, to contribute to the maintenance of patients in such establishments, and within certain limits to compulsorily combine sanitary authorities for the purpose of providing sanatoria. It appears that, so far, Devonshire and Cheshire are the only counties which have added pulmonary tuberculosis to the list of "infectious diseases," but no special accommodation has yet been provided out of the County funds ; in the counties of Durham, Westmoreland and Worcester some provision has been made by guardians, district councils, &c., by adapting pre-existing buildings for treating consumptives, and the Boards of Guardians of the city of Liverpool have combined for the erection of a permanent sanatorium at Heswell on the banks of the river Dee. Dr. Bulstrode reports favourably to the Local Government Board as to the value of sanatorium treatment in pulmonary tuberculosis.* As far as the "immediate result to the individual" is concerned, he believes the best results are obtained when the patients are admitted to treatment in the earlier stages of their malady, but as to "after results," that is the remoter benefit referable to sanatorium treatment, he hesitates to give an opinion.

HOUSING OF THE WORKING CLASSES.

The problem relating to the suitable housing of the working classes is one of great difficulty in many towns with congested populations, and to a less degree in the small urban districts and rural areas. Since Torrens's Act, in 1868, and Cross's Acts in 1875 and 1879, for providing better dwellings for artisans and labourers became law, the desire on the part of legislature to improve the housing of the industrial portion of the community has resulted in several Acts of Parliament—

* Local Government Board Report, 1905-6, Dr. Bulstrode on Sanatoria for Consumptives, &c.

commencing with the Housing of the Working Classes Act, 1885—being passed with this object in view. At the present time the increasing facilities for rapid locomotion has created a strong disposition on the part of the inhabitants of towns to reside in the rural districts, and in order to make provision for this overflow the President of the Local Government Board, in his Housing, Town Planning, &c., Bill now before Parliament, proposes to give assistance to adequate schemes devised “with the general object of securing proper sanitary conditions, amenity and convenience in connection with the laying out and use of the land.” In the promotion of the new schemes, efficient control will be substituted for chance, which has played such an important part in the town formation of the past, and Local Authorities will be able to promote schemes, not only in their own areas, but in the areas of neighbouring authorities, and also associate themselves with the authority responsible for the local administration of public health, &c. It seems to me reasonable to suggest that in any town-planning scheme within an Administrative County area, the County Council should be included, and they should play an important part in determining how the land should be laid out, the width and direction of the main arteries of traffic, the sewerage and sewage disposal, &c. Unless these matters are satisfactory to the County Authority, difficulties will arise that would be better avoided at the initial stage of the scheme. As far as Lancashire is concerned, except in certain boroughs and large urban districts such as Darwen (B), Eccles (B), Ormskirk, Prescott, Stretford, &c., very inadequate action has taken place under the Acts relating to the housing of the working classes, and in respect of rural districts practically nothing has been done in this direction, and no application has been received by the County Council under Section 2 of the Housing of the Working Classes Act, 1900, to adopt Part III. of the principal Act.* The latter Act was

* The Housing of the Working Classes Act, 1890.

primarily intended to cope with the evils in towns, and only incidentally intended to apply to rural districts. Much overcrowding is, I believe, caused by a lack of house accommodation in villages, and houses are in consequence allowed to be occupied, although unfit for habitation. The water supply is frequently polluted and the drainage defective, and I quite agree with Mr. Wilson Fox* that in rural districts cottages are sometimes empty on account of there being no water within a reasonable distance ; whilst there are many villages where the water supply is not only deficient in quantity, but bad in quality, thereby causing unhealthy conditions and hardship to the occupier. By Clause 11 of the Bill promoted by Mr. Burns, power is given to the Local Government Board to declare that a Local Authority has failed to exercise their powers under Part 3 of the principal Act, and the Board can “ make an order directing that authority, or if the Board think fit, in any case where the authority in default is the Council of a County district, the County Council,” to carry out the work required to be done. By further complicated procedure, to be initiated by the Local Government Board, it is proposed to make sure of the execution of the Housing Acts by the authorities concerned ; but I do not think such power will ever be put in force, or would prove successful in operation. In housing legislation, procedure should be simplified, and the County Council might with confidence be given power to carry out any new duties without the sword of Damocles, in the form of a Local Government Board mandamus, being constantly held over them.

MIDWIVES ACT, 1902.

Probably the most important sanitary duty that County Councils have to perform is that of administering the Midwives Act, 1902. Its importance cannot be over-estimated,

* Report of Select Committee on Housing of the Working Classes Acts Amendment Bill, 1906.

for it concerns the lives and health of mothers and newborn infants, and affects most intimately the former, especially if, in their parturient condition, they should be in want of the means for securing the professional care and attention so much needed. From the Registrar-General's report it appears that in 1906 there were recorded in England and Wales 1,640 deaths of women from puerperal septic diseases, and 2,117 from other diseases of pregnancy or of childbirth, together amounting to 3,757, and equivalent to a rate of 4.02 per 1,000 births. In the ten years immediately preceding, the average proportion had been 4.48 per 1,000. To this large mortality from child-bed illness, half of which at least is capable of prevention, there must be added, according to Sir James W. Byers, of Belfast, "the further incalculable loss from secondary gynæcological disease, and sterility entailed by slighter and not immediately fatal cases of infection." In discussing the amount of morbidity, Sir Wm. J. Sinclair stated that for every fatal case of puerperal fever there are at least five, six, or seven cases of child-bed morbidity which cause chronic ailments and produce in some measure continuous suffering and prolonged or permanent disablement. By the adoption of strict hygienic measures, it has been amply shown by him that puerperal infection may be considerably reduced. Among many instances, I may mention that in 1880, one-half of the women confined within the Rotunda Hospital (Dublin) suffered from puerperal fever; while in 1905, of 1,887 cases, the percentage of morbidity was only 8.42, without a single death.* Dr. Boxall reported in 1905 that 8,373 cases had been attended in the General Lying-in Hospital (London), "without one death from sepsis originating in the hospital in the course of sixteen years." It would appear that in many of the continental towns the results of home treatment, judged by the amount of mortality and morbidity from child-bed diseases, are

* Report for 1905 by Dr. Tweedy, Master of the Rotunda Hospital.

nearly as successful as in the lying-in hospitals ; but it must be remembered that the midwives are better trained than in this country, and under more rigid supervision. In England and Wales during 1906, the mortality at child-birth from puerperal septic disease was equal to 1·7 per 1,000 births, indicating to my mind a proportion of deaths which might be much reduced by the strict enforcement of antisepsis and asepsis, and by less interference on the part of those in attendance with the course of natural labour. In Lancashire, 811 midwives attended last year 21,583, or practically half the County births, with the occurrence, so far as can be ascertained, of 25 puerperal fever deaths, equal to 1·15 per 1,000 births ; while as a result of 21,558 births attended by other than certified midwives, 42 women died from puerperal fever, equivalent to 1·94 per 1,000 births. These facts are difficult to explain, but I am inclined to believe that certified midwives, with all their faults, are not responsible for an undue share in the dissemination of puerperal infection. It is very difficult to obtain correct information on this subject, as notification with respect to puerperal fever is imperfectly carried out, and even death certificates are not always free from ambiguity. This uncertainty will continue until the Notification of Births Act, 1907, is generally adopted, and exact knowledge of births is rendered available for local supervising authorities. By Section 2 the Council of a County may adopt the above Act either for the whole County or for any County district, and pay the expenses incident to its enforcement, but as far as I am aware the only County* that has taken practical action in this direction is Durham, where health visitors have been recently appointed at the County expense to carry out their duties in three specially selected districts in which the infant mortality is unduly high.

* The Leicestershire County Council have recently applied to the Local Government Board for consent to adopt the Act for the whole County, but the Board have suggested that in the first instance the District Councils should have an opportunity of adopting the Act.

The many interesting and important details respecting the administration of the Midwives Act cannot here be fully dealt with, but I may, however, express my opinion that it has initiated a most valuable work in Lancashire, which month by month is attaining greater perfection. The rules of the Central Midwives Board have lately been subjected to most careful revision, and experience shows that they are being administered with great efficiency, and that a vast improvement has been effected in the character and methods of midwives generally. It is also pleasing to note from the reports that are periodically presented to local supervising authorities in various parts of the country, that even the illiterate midwives are being educated to perform more satisfactorily their duties. To fill the gaps that are constantly taking place in the ranks of the *bonâ fide* midwives, it is hoped that better-trained women will be available, and perhaps some of the supervising authorities may find it necessary, in order to make provision for their possible needs in the near future, to offer suitable persons some inducement to take up this important work.

FOOD ADULTERATION.

The only other subject I have to refer to at any length is that of food adulteration. On the passing of the Local Government Act, Lancashire and other counties took over from the County Magistrates the administration of the Sale of Food and Drugs Act, 1875, and continued the appointments of members of the police force, usually the superintendents, as inspectors under the Act, with the subsequent addition in some instances of special inspectors. Certain County Councils appear to have made arrangements with the sanitary inspectors of District Councils to purchase samples, but in 1902, on the question being raised by way of surcharge on audit, as to whether a County Council could employ officials not acting under their direction, some modification of the

system took place. The number of samples purchased for analysis in the large Counties, as shown in the following tabulated statement,* varies considerably, and there is also great variation in the percentage of adulteration.

SAMPLES PURCHASED UNDER THE SALE OF FOOD AND DRUGS
ACTS DURING THE FIVE YEARS, 1903-1907.

County.	Population, Census, 1901.	No. of Samples Examined.	No. Adul- terated.†	Percentage of Adul- teration.†
Cheshire	488,115	5,189	176	3·3
Derbyshire	436,135	5,309	380	7·1
Durham	729,150	4,154	406	9·7
Essex	778,267	7,511	780	10·3
Kent	687,392	16,249	1,083	6·6
Lancashire	1,454,934	16,355	1,088	6·6
Middlesex	792,314	22,713	1,140	5·0
Staffordshire	858,601	11,497	608	5·2
Surrey	473,134	5,768	558	9·6
Worcestershire	333,696	6,208	207	3·3
Yorks, West Riding.	1,249,685	13,331	476	3·5

† The word “adulterated” implies that the sample was not certified by the public analyst as genuine, and does not imply that any person was convicted of an offence.

It is impossible to explain the difference in the amount of County adulteration without knowing the particulars as to the mode of procedure in purchasing samples, and the character and number of the articles purchased in accordance

* Local Government Board Annual Reports, 1903-1907.

with the Act, or as "test" samples, *i.e.* without formalities. Of course, it is quite easy to understand that where vigorous action is taken in a district, there will be a tendency for adulteration to remain in abeyance; for example, I may mention that in 1904 it was not an uncommon practice for shops to be opened in the manufacturing districts of Lancashire by fraudulent traders, who posed as Irish egg and butter merchants, and advertised largely their butter at considerably less than market price. Test samples of the "butter" on being analysed were found to be margarine, and on the police becoming satisfied of the fraudulent nature of the business, they took the persons engaged in it into custody, with the result that three of them were found guilty at the Manchester Quarter Sessions of obtaining money under false pretences, and sentenced to twelve months' hard labour. As might be expected, these convictions induced the remaining members of the gang to seek districts more favourable for their nefarious operations. Another instance may be given of the stoppage of an extensive sale, in Lancashire, of pepper, adulterated with ground olive stones and bleached husks. The following are facts of this case:—November 24th, 1903, sample of pepper purchased Newhey (Co-operative Society), was certified to contain 8 per cent. of olive stones. January 6th, 1904, Society summoned under Section 6, Sale of Food and Drugs Act, 1875. Case dismissed on production of warranty from Messrs S. & J. R., Manchester, who had supplied a keg of pepper direct from the grinder, C. J. Therefore the pepper in question never came into the hands of Messrs. R. at all, although they received a guarantee from C. J. as to its purity. An information was therefore laid by Messrs. R. (on behalf of the County Authority) against C. J., under the Merchandise Marks Act, 1887, for having applied a false trade description to goods. On June 16th, 1904, C. J. was tried before the Liverpool City stipendiary (Mr. Stewart), and sent to prison for three months without the option of a fine. Before the

case was heard, Mr. Stewart granted a search-warrant upon the works of C. J., and eleven lurry loads of ground olive stones, bleached and unbleached pepper husks, and adulterated pepper, were removed from the premises by the police and afterwards destroyed. On leaving prison, C. J. gave up a very lucrative business and left the country.

I find, on looking through samples purchased in Lancashire since the passing of the Sale of Food and Drugs Acts, that there has been a gradual decline in the total amount of adulteration, from 19·5, the average percentage from 1876-1881, to 6·6 from 1903-1907. The following table shows that during the last five years the adulteration of butter and miscellaneous articles has declined in Lancashire, but no practical improvement has taken place as regards milk.

PERCENTAGE OF OFFENCES.

LANCASHIRE ADMINISTRATIVE AREA.

Year.	Milk.	Butter.	Miscellaneous Articles.
1903.....	7·2	5·8	8·0
1904.....	7·2	7·3	7·2
1905.....	8·3	4·9	5·0
1906.....	9·6	2·1	3·9
1907.....	7·0	2·3	2·8

After the long experience in this country of the working of Acts passed with the object of preventing food adulteration, it is surely a reflection on the Government that milk, the most important article of food so far as the infant is concerned, still continues to be subjected to such frequent adulteration.

The reason to some extent may be due to the simplicity of this form of adulteration, and the attractive convenience of the "cow with the iron tail" proving too tempting for the dishonest milk dealer to resist. The standard set up by the Board of Agriculture under Section 4 of the Sale of Food and Drugs Act, 1899, is a good one in my opinion, but its value is largely neutralised, as it merely raises "a presumption until the contrary is proved" that the article is not genuine. I regret to say that it is becoming increasingly difficult to obtain convictions in any case of alleged milk adulteration, and occasionally cases are even dismissed by the magistrates, although there may be practically no evidence for the defence. In order to avoid these difficulties I quite agree with the suggestion that there should be a fixed universal standard of genuineness below which the sale of milk should be prohibited. A resolution in agreement with this view was passed by the Council of Municipal Corporations in July, 1907; and in the report of the Board of Agriculture and Fisheries, for the same year, I find it stated that "there is much to be said in favour of a universal standard, and if the prohibition against the sale of milk below the standard adopted applied to wholesale as well as retail transactions, it would certainly be convenient that the standard should be universal, so that farmers sending milk into different districts should know that the milk would be treated alike wherever it was sent." With respect to the prosecutions for the use of preservatives, the practice in the various courts differs considerably, and in order to produce uniformity of action, the Board of Agriculture should not further delay the making of regulations as to preservatives in accordance with the recommendations of the Departmental Committee. As far as milk is concerned, there ought to be no difficulty, for the Committee recommended that the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Act.

By the enforcement of the Butter and Margarine Act, 1907, fraudulent blenders of butter will find it more difficult to continue their profitable system of adulteration, as now premises used for the blending or re-working of butter have to be licensed and subject to inspection. Previous to the passing of this Act, there were certain large butter blenders making annually considerable sums of money, representing thousands of pounds, by the scientific sophistication of butter. Their mode of procedure was to mix with butter, say 20 per cent. of a neutral fat difficult for the analyst to identify, called "lardine," and in some cases they used certain proportions of cocoa-nut oil and specially prepared animal fats, the object being to obtain a mixture of fats which would have approximately the same iodine number and refractive index as ordinary butter. An interesting prosecution for this form of adulteration, and one showing the difficulty and expense of pursuing adulteration to its source, was successfully conducted by the Lancashire County Council in 1905, under the Merchandise Marks Act, the wrong-doers being followed from Radcliffe to their place of business in the City of London. On an information laid against Messrs. C. & Y. (the fraudulent firm) at the Clerkenwell Police Court, a search-warrant was granted, and on being executed a large quantity of goods were seized and found to be adulterated. After several days hearing, the stipendiary in one case fined Messrs. C. & Y. £20 and £250 towards the costs of the County Council, and in another £5 and £52 10s. 0d. costs. Much of the trouble experienced in running to earth the chief offenders in this case will be in future avoided by the operation of the legislation already mentioned.

Fresh duties are constantly being imposed upon County Councils by the legislature, and at the present time, great attention is being directed to the new and vastly important duties provided by the Education (Administrative Provisions) Act, 1907, in respect of the medical inspection of school

children. I am not able to speak with any authority on this subject at present, but I fully believe that this new legislation will attain its aim in effecting an improvement in the health and physique of the present generation, and "as a natural corollary, the mental and moral improvement of coming generations."
